A STUDY TO ASSESS THE EFFECTIVENESS OF HOT APPLICATION ON EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS AT SELECTED HOSPITALS, THANJAVUR.

By

REG.NO:301322251

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN NURSING.

OCTOBER 2015

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OCTOBER 2015

DECLARATION

I here declare that the present dissertation titled "**A study to assess the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers at selected hospitals,Thanjavur**."outcome of the original research work undertaken and carried out by me, under the guidance of research guide **Prof. .Mrs.VANITHA INNOCENT RANI M.Sc.,(N),Ph.D.,** professor cum principal, and **Mrs.SHARAN SOPHIYA M.Sc.,(N)** vice principal Our Lady Of Health College Of Nursing, Thanjavur.

I hereby declare that the material of this has not found in any way, the basis for the award of any degree / diploma in this university or any other university.

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CERTIFICATE THAT IS THE BONAFIDE WORK OF

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I will tell of all your wonders"

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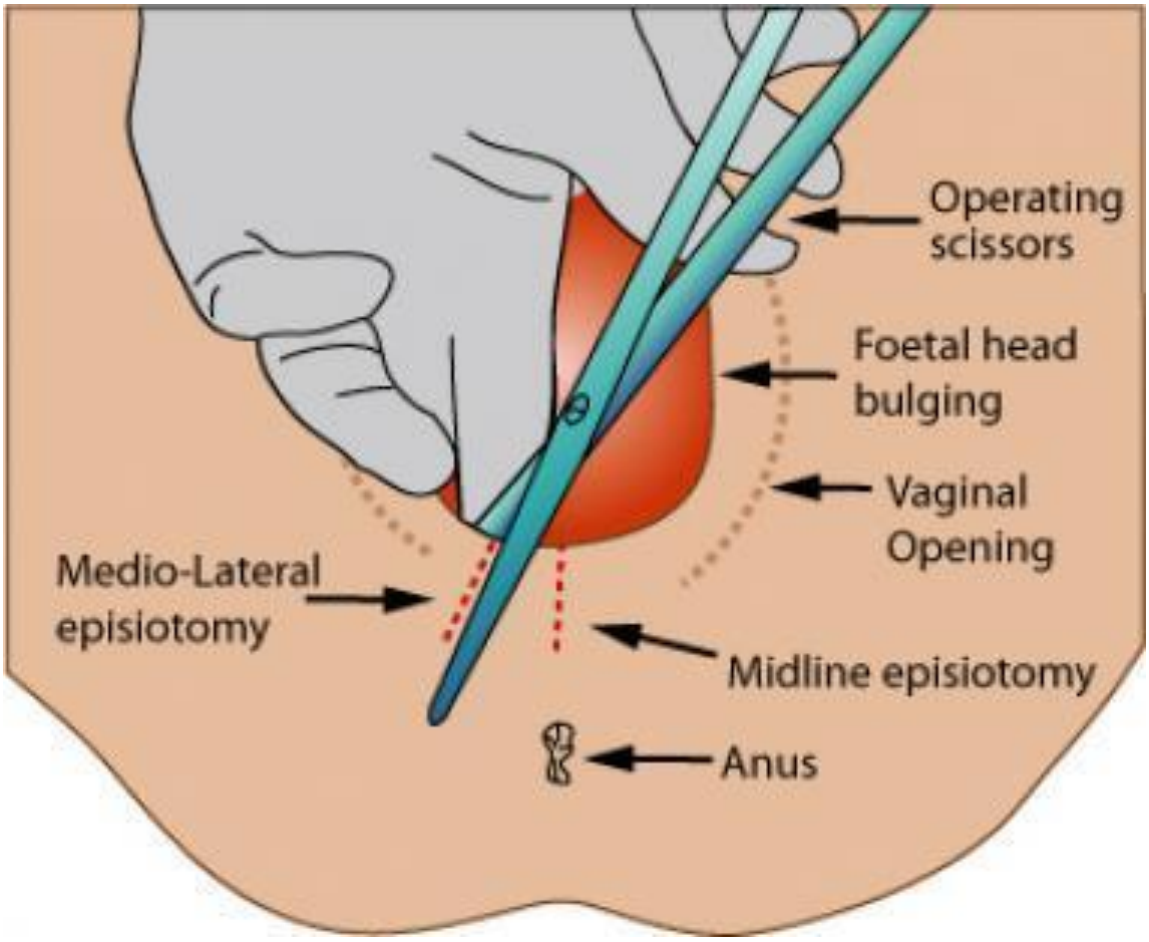
LIST OF ABBREVIATIONS

SHORT FORMS	ABBREVIATION
ANA	American nurses association
H_0	Null Hypothesis
λ^2	Chi-square
S	Significant
NS	Not Significant
FIG	Figure
B.SC(N)	Bachelor of science in nursing
M.SC(N)	Master of science in nursing
NO	Number
N	Number of sample
F	Frequency
%	Percentage
SD	Standard deviation
CC	Chromic catgut
VR	Vicryl rapide
RR	Risk ratio
LLLT	Low Level Laser Therapy

ABSTRACT

A study was to assess the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers in Thanjavur. In this study interventions used is applying hot sitz bath with potassium permanganate. The research design used for the current study was true experimental post test only design. A total of sixty postpartum women (experimental and control groups each group consisted of 30 women) were recruited randomly for this study from the postpartum ward at Our lady and KRA hospital. Tools used for data collection consisted of interviewing sheet, the numerical rating scale, the standardized REEDA Scale and follow up sheet. Finally, the statistical analysis revealed that, in between wound healing (‘t’ =13.8906) and in between pain (‘t’ =15.9465) in experimental group and control group. Scores of ‘t’ value had a significant difference at 0.05 level. Where as in correlation between the post test levels of wound healing and pain reduction in experimental group, the ‘r’ value is 0.8; it indicates that there is a positive and significant correlation and for control group, the 'r’ value (r =0.4).It reveals that there is positive and moderate significant correlation. Hot application is effective than routine care.

CHAPTER I



INTRODUCTION

CHAPTER I

INTRODUCTION

"The introduction of many minds into many fields of learning along a broad spectrum keeps alive questions about the accessibility, if not the unity, of knowledge".

(Edward Levi).

BACKGROUND OF THE STUDY

According to, World Health Organization (WHO) recommends that the episiotomy rate should be around 10%, which is already a reality in many European countries. Currently the use of episiotomy should be restricted and physicians are encouraged to use their clinical judgment to decide when the procedure is necessary. There is no clinical evidence collaborating any indication of episiotomy, so until the present moment it is not yet known whether episiotomy is indeed necessary in any context of obstetric practice.

According to WHO, the first published account of episiotomy in a medical journal was in 1810, but it took another hundred years for it to become a normal part of obstetric practice. There are earlier reports from London in 1741. There has been considerable debate about the place of episiotomy - more often fuelled by preconceptions than evidence.

- In the early 1970s it was often advocated that there were two reasons for episiotomy; one was a primigravida, and the other a previous episiotomy. In other words, every vaginal delivery should be accompanied by episiotomy.

- It was argued that this reduced the risk of tears and subsequent problems from prolonged bearing down, such as prolapse. The evidence for the latter was somewhat tenuous.
- The uncritical liberal use of episiotomy was opposed by consumer groups, including the National Childbirth Trust, and these very high rates of episiotomy have been reversed.

The rate of episiotomy in England decreased from 51% in 1975 to 15% in 2010-11, although this is only an approximate comparison because the statistics methodology was changed in 2006.

The overall rates for third-degree and fourth-degree perineal tears in England in 2011-2012 were.

- Primiparous: 4% following spontaneous vaginal delivery and 6.9% following instrumental delivery.
- Multiparous: 1.4% following spontaneous vaginal delivery and 2.5% following instrumental delivery.

There is considerable international variation in the rate of episiotomy. According to the Royal College of Obstetricians and Gynaecologists (RCOG) guideline published in 2007, it was then 8% in Holland, 14% in England, 50% in the USA and 99% in Eastern Europe.

Aasheim et al., (2011) Rates of episiotomy are reduced when Health Care Providers (HCPs) use a “hands off” technique during labour and birth. For example, no hand(s) on the perineum and limited manual assistance for the birth of the shoulders

In addition to the "hands off" technique, the use of warm compresses on the perineum is associated with a decreased occurrence of perineal trauma (tears and/or episiotomy).

Beckman and Stock, (2013). While research supporting perineal massage (once or twice a week) for prevention of tears and/or episiotomy has mixed results, it appears to have the most impact on first-time mothers who give birth vaginally as it reduces the likelihood of episiotomy (by 16%) and reduces prolonged perineal pain .

NEED FOR THE STUDY

"**Birthing is the most profound initiation to spirituality a woman can have."**

(Robin Lim)

Motherhood is a beautiful process, where by mothers safely delivers a child. It is the magic of creation. Care must be given to ensure safe birth. Safe motherhood initiative announced in the year 1987 had set targets to reduce maternal mortality by 50% one decade. The safe motherhood aims at enhancing the quality of life and women through adoption of a combination of health and non– health strategies. Glazers et al (1996), as cited by Calvert and flaming (2000) have addressed the extent and causes of morbidity by self- reported questionnaire. Their conclusions are that maternal postnatal morbidity is extensive and that it is unrecognized by health professional. Midwives have an important role to play in the care of perineal wounds following childbirth. It is important that midwives recognize the need for research based practice.

Episiotomy is an incision made on the perineum during a vaginal delivery to facilitate and explicit delivery and to prevent perineal tear.

Although its use in childbirth has steadily declined in recent decades, literature says in developed countries like United States and United Kingdom, episiotomy rates has decreased to 8% to 10% but actual use remains common in many hospital settings. Our institution being a tertiality care teaching hospital, the incidence of episiotomies per month is approximately 40%- 70 % while the rate of restrictive groups are 27.6%.

Journal of American science [2012] Most women have some degree of discomfort during the first few postpartum days. One often common causes of discomfort is episiotomy. Nursing interventions are intended to reduce the discomfort and allow the woman to take care of herself and her baby. Simple interventions that can decrease the discomfort associated with perineal trauma is applying an ice pack, moist or dry or topical applications, cleansing the perineum with a squeeze bottle and taking a warm shower or a sitz bath.

In India, the overall rate of episiotomy was 40.6% among the midwifes performed episiotomies at a lower rate (21.4%), faculty (33.3%) and private care providers (56.6%). The need for the Sitz bath during episiotomy is represented by a reduction of mean score from 4.1 to 0.15 and standard deviation from 0.66 to 0.3. The findings of the study consistent with the findings.

Pillitere (1994) says that every woman needs attention to perineal cleanliness in the postpartum period to prevent infection, as lochia may dry and harden in the vulva and perineum. It furnishes the bed for bacterial growth because the vagina lies in the close proximity to the rectum. Also there is always the danger that bacteria will spread from the rectum to the vagina and cause uterine infection.

Episiotomy pain often interferes with basic daily activities for the woman such as walking, sitting, passing urine and defecating and also negatively impacts on motherhood experiences.

Seven randomized controlled trials (RCTS) of liberal versus restrictive use of episiotomy assessed pain outcome. The most common primary outcome was perineal status after the birth .All seven studies reported incidences of episiotomy in liberal use and in restrictive it was third and fourth degree lacerations or extensions. The most common secondary outcome was pain in the days immediately after the birth. In the two groups used Numeical pain scale to assess the pain and classified responses into categories of mild, moderate or severe. Orally they have reported the composite score of the 0-10 item scale. Thus pain assessment is very important contributor for professionals especially midwives, as traditionally they are left to manage the episiotomy wound.

Episiotomy wound care starts immediately after suturing the wound in order to reduce pain and heal wound . There are some general treatments for perineal care such as cold packs and ice packs applied to perineum for the first 24 hours. Kegal exercises are taught by nurses to strengthen the pelvic floor muscles and it speeds up the wound healing process.

Apart from all the important significant therapy hot application[sitz bath with potassium permanganate 1 gram] is widely used in many different hospital settings and proved effective in managing the episiotomy wound pain and healing and also in minimizing secondary complications.

The investigator had observed that hot application with pottasium permanganate is used in various hospital settings for the treatment of episiotomy wound .Generally accepted therapeutic protocol are however missing as each institution working with hot application with potassium permanganate has its own

protocol or adopted from various other institution which are not adequately verified .Though the standard protocols are not available still the literature supports the benefit of potassium permanganate as an effective treatment for episiotomy wound healing. So the investigator strongly feels the need to implement hot application with potassium permanganate in our institution in treating episiotomy to provide comfort, prevent infection ,reduce pain and promote wound healing ultimately reducing the hospital stay of patients. Further this study will help to formulate a standard protocol for our hospital and benefit the nurses of maternity unit.

Today, when the cost of medical treatment and care is so increasing.Economical care of patients with episiotomy can be provided, if nurse and midwives realize the relevance of their care and potential impact of the advocated procedure in wound healing.

STATEMENT OF THE PROBLEM

A STUDY TO ASSESS THE EFFECTIVENESS OF HOT APPLICATION ON EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS AT SELECTED HOSPITALS, THANJAVUR.

OBJECTIVES

- To assess the effectiveness of post test of episiotomy wound healing and pain among the postnatal mothers in both experimental and control group.
- To compare the significant difference between the experimental group and control group of post test of episiotomy wound healing and pain among the postnatal mothers.

- To correlate the post test of episiotomy wound healing and pain among the postnatal mothers in both experimental group and control group.
- To determine the association between the post test of episiotomy wound healing and pain among the postnatal mothers in both experimental and control group with their selected demographic variables such as Age of the mother, parity, educational status, occupation, body built, type of family, history of present medical illness, indication of episiotomy, birth weight of the newborn and types of episiotomy.

HYPOTHESES

All Hypotheses were tested at 0.05 level of significance

- **H1**-There will be a significant difference between the experimental and control group of post test of episiotomy wound healing and pain among the postnatal mothers.
- **H2**-There will be a significant correlation between the post test levels of episiotomy wound healing and pain among the postnatal mothers in both experimental and control group.
- **H3**-There will be a significant association between the post test level of episiotomy wound healing and pain reduction among the postnatal mothers in both experimental and control group with their selected demographic variables such as Age of the mother, parity, educational status, occupation, body built, type of family, history of present medical illness, indication of episiotomy, birth weight of the newborn and types of episiotomy.

OPERATIONAL DEFINITION

EFFECTIVENESS

In this study it refers to in the episiotomy wound healing process and pain reduction measured by REEDA scale and Numerical pain rating scale.

HOT APPLICATION

In this study it refers to the immersion of perineal area and buttocks in 4 liters of warm water at 110˚ F mixed with 1 gram of potassium permanganate 3 times a day for 15 minutes.

PAIN

In this study it refers to unpleasant feeling caused by episiotomy wound and it's measured by Numerical pain rating scale.

EPISIOTOMY WOUND

In this study it refers to the incision made on the perineum, it's a area between the vagina and anus during the process of child birth.

POSTNATAL MOTHERS

In this study it refers to the women who delivered by normal vaginal delivery with Episiotomy.

ASSUMPTION

Hot application may fasten the episiotomy wound healing process and simultaneously reduce the pain.

Hot application helps to reduce the infection.

DELIMITATION

- The study will be limited to the postnatal mothers with episiotomy wound.
- The study will be limited to the mothers who have delivered in selected hospitals.
- Data collection period will be limited to 6 weeks.

PROJECTED OUTCOME

- The study will help to improve the healing of episiotomy wound and reduce the pain among postnatal mothers.
- The study will help to prevent postnatal infections.

CHAPTER II

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Review of literature is one of the most important steps in the research process. It is an account of what is already known about a particular phenomenon. The main purpose is to convey to the readers about the work already done and the knowledge and ideas that have been already established on a particular topic of research. It is an account of the previous efforts and achievements of scholars and researchers on a phenomenon.

PART I

Empirical literature

It is divided into five sections.

SECTION A: Review of literature related to episiotomy.

SECTION B: Review of literature related to wound healing.

SECTION C: Review of literature related to hot applications.

SECTION D: Review of literature related to pain reduction.

SECTION E: Review of literature related to routine care.

PART II: conceptual framework

PART I

Empirical literature

EO IZUKA, CC DIM, et.,al Annal medical science research(2014) stated that to determine the prevalence, predictors, and outcomes of episiotomy among primigravida women in Enugu, Nigeria.The study was a retrospective cross .Mann–Whitney U-test (continuous data) and Chi-square test (categorical data) were used for data analysis. Prevalence of episiotomy in the study was 62.1% (411/662). The episiotomy rate for booked women (65.6%, 376/573) was significantly higher than that of unbooked women (39.3%, 35/89), (prevalence ratio = 1.67 [95% confidence interval: 1.28, 2.17]). The birth weights of babies delivered in the episiotomy group (median = 3.2 kg [interquartile range (IQR): 2.9-3.5]) was statistically higher than those of women who did not receive episiotomy (median, 3.1 kg [IQR: 2.7-3.4]), ($Z = -3.415$, $P = 0.001$).

INES MELO, LEILA KATZ,et.,al Reproductive Health (2014) reported that to compare maternal and perinatal outcomes in women undergoing a protocol of not performing episiotomy versus selective episiotomy. An open label randomized clinical trial will be conducted. Women in experimental group will be not conducting episiotomy and women in control group will be with episiotomy. analysis done by t test , Mann–Whitney U test ,Pearson's χ test and risk ratios and their 95% confidence intervals will be calculated. The mean value of not performing episiotomy is 1.49 ± 0.67 and mean value of performing episiotomy is 0.89 ± 0.53. so not performing an episiotomy is effective than performing episiotomy.

MS. SHEORAN POONAM–MS. CHAND SULAKSHANA,et.,al (M.M University Mullana, Ambala (2014) evaluated that the study is aimed to compare

the effectiveness of infra red light therapy vs. sitz bath on episiotomy in terms of episiotomy wound healing among postnatal mothers conducted in Chandigarh. A sample of 60 was selected using purposive sampling; of these 60 postnatal mothers, 30 were treated with infra red light and remaining thirty postnatal mothers were treated with sitz bath. Data was collected using REEDA Scale. The mean value of infra red is 0.09 ± 0.26 and for sitz bath is 0.34 ± 0.48 .No significant association was found between episiotomy wound healing of the postnatal mothers treated with infra red light therapy and sitz bath and selected variables.

TAEHAN KANHO HAKHOE CHI ,School of Nursing Eulji University (2014) explained that the designed to verify the effect of lavender oil in sitz bath and lavender soap on a postpartum mother's perineal healing. The design was a clinical trial. They were allocated to one of three groups -sitz bath group, soap application group or control group. Perineal healing status was measured using the REEDA scale and smears of episiotomy wound were obtained. The data analyzed by repeated measures of ANOVA, ANCOVA, chi2-test.Mean value of lavender oil 0.31 ± 0.33 ,for lavender soap 1.13 ± 0.55 and for control group 0.62 ± 0.55. Finally concluded that lavender oil and lavender soap are effective in perineal healing.

YASHASHRI PORE, (2014) reported that, the study is to assess effectiveness of moist heat (Sitz bath) and dry heat (infra red light) application on healing of episiotomy wound. Healing of episiotomy is assessed with REEDA scale (30 dry heat and 30 moist heat). The result is in Group A, 15(50%) of the samples were aged 19-21 years, 7(23.3%) of them from 22-24 years, 7(23.3%) of them from 25-27 years and only one (3.3%) of them was beyond 27 years. In Group B, 16(53.3%) of the samples were aged 19-21 years, 11(36.7%) of them from 22-24 years and only one (3.3%) of them was beyond 27 years.

ARATI MAHISHALE1*, ASHWINI CHOUGALA1 et.,al WOMEN'S HEALTH CARE (2013) evaluated that the present study was aimed to evaluate the effectiveness of therapeutic ultrasound and cooling maternal gel pads for perineal pain following vaginal delivery. Control (n-15) and interventional group (n-15) both group selected randomly. Outcome measured by included Visual Analog Scale (VAS) and REEDA scale. The mean value of VAS before intervention was 6.7 ± 1.4 in control group and 7.2 ± 1.6 in experimental group. The mean value of VAS after intervention in control group was 5.8 ± 1.7 with p value 0.56 and 3.2 ± 1.3 in experimental group. There was statistically significant difference seen in pain score after 3 days of intervention in experimental group with p value 0.02.The mean value of redness was 1.63 ± 0.781, edema 1.38 ± 0.48,ecchymosis 0.78 ± 0.96, discharge 0.24 ± 0.31, approximation 1.47 ± 0.26 before intervention in control group and the mean value of redness 1.8 ± 0.71, edema 1.46 ± 0.56, ecchymosis 0.5 ± 0.83, discharge 0.3 ± 0.42 and approximation 1.61 ± 0.34 experimental group. There was no statistically significant difference in both group.

DUDLEY LM, KETTLE C, et al.,Cochrane Database (2013) stated that **e**ach year approximately 350,000 women in the United Kingdom and millions more worldwide, experience perineal suturing following childbirth. To evaluate the therapeutic effectiveness of secondary suturing of dehisced perineal wounds compared to non-suturing. Randomized controlled trials used. Debridement given**.** significant (risk ratio (RR) 1.69, 95% confidence interval (CI) 0.73 to 3.88, one study, 17 women).Only one trial reported on rates of dyspareunia at two months and six months with no statistically significant difference between both groups; two months, (RR 0.44, 95% CI 0.18 to 1.11, one study, 26 women) and six months, (RR 0.39, 95% CI 0.04 to 3.87, one study 32 women).

ESA BOSE, MEENA SAMANT et al., (2013) revealed that to compare the impact of polyglactin 910 (1-0) (Vicryl rapide) (VR) and Chromic Catgut (1-0)

(CC) sutures on perineal pain. Patients were divided randomly into two groups: VR group and CC group. Each group consisted of 50 patients. Pain was assessed by the visual analogue scale and analgesics. Ordinal data were analyzed by Mann-Whitney U-test. Categorical data were analyzed by Chi-square test. Result found that 523 out of 886 (59.02%) of women with vicryl rapide on episiotomy and 591 out of 888 (66.5%) sutured with catgut .VR suture is associated with less pain perception compared to CC suture.

FARIDEH EGHDAMPOUR, FERESHTEH JAHDIE et al., journal caring science (2013) stated that aloe vera and Calendula ointment was applied to both experimental group on episiotomy for healing for every 8 hours for 5 days. Totally 111 qualified primiparous women admitted in Lolagar hospital. They were randomly categorized into three groups of control (n=1) and experimental (n=2) groups. The data were collected by questionnaire and REED scale. A which investigated the episiotomy healing before and five days after intervention in two groups. ANOVA, Tukey test, Kruskal-wallis, Chi-square were used for data analysis. The three groups do not have statistically significant different regarding demographic and other intervening variables. Comparing the mean of REEDA in five days after delivery showed statistically significant. The result is 0.98 with 0.89.

HATICE EKMEN et al.,Iran J Nurs Midwifery (2013) defined that the Postpartum follow-up results of the women (N=396). The women with episiotomy had significantly more frequent (85.2% vs 53.2%; $P < 0.001$) and more severe perineal pain (the mean visual analogue scale score, 1.54 ± 0.93 vs 0.82 ± 0.94; $P < 0.001$) on the first postpartum day. Problems with wound healing (31.4% vs 12.4%; $P < 0.001$), and delays in wound healing (21.1% vs 10.2%; $P < 0.01$) in the third postpartum week. The results of univariate logistic regression analysis revealed that an episiotomy increased the probability of a frequent perineal pain approximately five times (OR, 5.07; 95% CI, 3.15-8.15) and severe perineal pain

two times (OR, 2.26; 95% CI, 1.79-2.86) on the first postpartum day. In addition, an episiotomy increased the probability of a frequent perineal pain three times (OR, 3.12; 95% CI, 1.83-5.32), severe perineal pain two times (OR, 1.67; 95% CI, 1.33-2.10), problems with wound healing three times (OR, 3.24; 95% CI, 1.80-5.85), and a delay in wound healing two times (OR, 2.35; 95% CI, 1.23-4.52) in the third postpartum week .

KATAYON ,AFSANEH (2013) stated that the project was a randomized trial study that was carried out with two groups of 60 respondents, where both used the breathing technique, one with and one without lavender essence. The contraction began, a deep breath was taken and exhaled. Then fast shallow breathings, being 1.5 times more than ordinary breathing per minute, were performed. The mothers in the experimental group were asked to put the mask on their faces and inhale the lavender essence. In the control group, only the breathing technique was used. The mean age in breathing technique with lavender and breathing technique alone were 25.5 ± 4.3 and 26 ± 4.9. Active phase in interventional group was 7.85 ± 3.85 hours and in the control group it was 9.88 ± 6.65 hours. In the second stage, length of labor was 16.5 ± 5.7 and 28.9 ± 17.4 minutes in both group.Tt shoes active phase length is higher. Lavender oil is reduce the labour duration.

MANJU BALA,SENGATHIR et al., American journal of research(2013) evaluated that the effectiveness of Infrared rays on wound healing and pain level in the experimental group comparison with control group mothers. Quantitative approach and pre- test/ post- test control group design adopted and 100 caesarean section mothers (50 experimental & 50 control group) by simple random sampling technique. Pre–test was done to assessed by Modified Southampton wound assessment scale and Numeric pain rating scale. Experimental group received infrared therapy whereas the control group received

routine dressing for twice a day for 3 days. Evaluation done on 5^{th} & 7^{th} post operative days with the same standard scales. Pre& post-test mean wound healing scores in experimental group was 2.1 ± 1.446 & 1.26 ± 0.828 with't' value 4.365($p<0.05$), Similarly the mean pain level scores was 3.90±0.303 & 1.94±0.424 with the't' value 28.100($p<0.05$) and found statistically significant. There was a positive correlation between the wound healing and pain level score r = 0.22.

SUSEN GEORGE the Rajiv Gandhi University of Health Sciences (2013) explained that the study conducted to establish the prevalence of perineal pain, the effects of pain on postnatal recovery in Royal Women's Hospital Australia. Researchers conducted structured interviews of women in the postnatal ward of tertiary hospital, within 72 hours of vaginal birth. Results revealed that 90% of women reported some peineal pain, with 37% reporting moderate or severe pain. In walking (33%) or sitting (39%), while 45% noted that pain interfered with their ability to sleep. Mother feels pain occur during feeding (12%) caring (12%). The researchers suggested that the prevalence of peineal pain and the associated impact on women's from childbirth warrants midwives' proactive care in offering a range of effective pain relief are found to reduce episiotomy pain and enhance healing process, which include administration of analgesics, cleanliness, applying ice pack, topical application by dry heat (infra red therapy), sitz bath, performance of Kegel's exercise and perineal care.

ZEKIYE KARAÇAM, HATICE EKMEN et al (2013) estimated that 1 286.796 births occur annually and that nearly one-half (52.5%) of these births are vaginal births.This study was s a prospective follow-up study. Three hundred ninety-six primiparas were included in the study by convenience sampling. The total number of women in the study was 348 when calculated within a 95% confidence interval (CI; $\alpha = 0.05$), with a $P = 0.50$, and a population size of 3720. Because of the restricted use of episiotomy in this study, $P = 0.50$ was taken in the

calculation of sample size. The study was conducted in Aydın Government. Questionnaire method used. Out of 396 primiparas who participated in this study, 223 (56.3%) had episiotomy. Of the participants, 14 (3.5%) had an intact perineum, 159 (40.2%) had spontaneous lacerations, and 46 (11.6%) had episiotomy with spontaneous lacerations. The mean age of the women who had an episiotomy was 23.34 ± 3.67 years, the mean age of the women who did not receive an episiotomy was 22.48 ± 3.58 years, the difference was statistically significant (t = -0.020, $P < 0.05$). It was significantly lower than women who were legally married (3.6% *vs* 9.2%; $\chi^2 = 5.484$, $P < 0.05$).

FARAGE M, MILLER KW, ZOLNOUN D, LEDGER WJ (**2012**) reported that the quantitative sensory testing (QST) measures perception thresholds of defined intensities of physical stimuli (e.g. temperature, touch, pressure, vibration). The frequency and severity of subjective sensory effects (itch, burn),though less quantifiable, can be characterized under defined conditions such as product testing. This article reviews two sources of published research on sensory perception on the vulva relative to extragenital sites systematic, quantitative sensory testing with defined stimuli and vulvar sensory effects reported in clinical trials of external feminine hygiene products. In healthy women, the vulva is less sensitive to punctate touch and vibration than other body sites. Vulvar sensitivity to mechanical stimuli declines after menopause, but is restored by estrogen supplementation. Product trials of feminine wet wipes suggest that vulvar perception of stinging and of skin wetness also are attenuated .

FATEMEH SHEIKHAN, FERESHTEH JAHDI et al.,(2012) Application of Cooling devices is a new approach in pain relief but the pain related to episiotomy is typically treated with oral analgesic medications. This clinical trial involved 60 qualified primi women in Kamali Hospital Iran. They randomly allocated into two groups: cases (using Gel pads) and control (receiving the hospital routine). Participants are assessed by VAS and REEDA scales. Pain

was evaluated 4, 12 h and 5 days after episiotomy. The obtained data were analyzed in SPSS 14 using independent t-test and chi-square. The result are t = 10.1234 and t =12.9549. This study application of cold gel pads effective instead of betadine episiotomy wound care.

HODA ABED AND NAHED SAIED et al., journal of American science (2012) Stated that this study was to evaluate the effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women. Design was used quasi experimental. A total of eighty postpartum women (experimental and control groups each group consisted of 40 women) were recruited randomly for this study Tools used for data collection consisted of interviewing sheet, the numerical rating scale (NRS), the standardized REEDA Scale and follow up sheet. The study revealed that statistically significant. For 24 hours (t=5.353at p =0.000), (t=8.119 at p =0.000), (t=2.568 at p = 0.01), (t=9.884 at p = 0.0000),(t=2.223 at p = 0.03) respectively. At 7days after episiotomy in relation to redness, edema, and suture approximation (t=2.962at p = 0.005), (t=2.399 at p =0.02), (t=1.857 at p= 0.07) respectively.

JAQUELINE DE OLIVEIRA SANTOS, ANA CECÍLIA,MARINA BARRETO (2011) explored that the effects of low-level laser therapy for perineal pain and healing after episiotomy. Design is a double-blind, randomised, controlled clinical trial used. Setting is Birth Centre units of Amparo Brazil. Participants fifty-two postpartum women had mediolateral episiotomies during their first normal delivery were randomly divided into two groups of 26: an experimental group and a control group. Intervention in the experimental group, the women were treated with LLLT.It was applied in three postpartum sessions: up to 2 hrs postpartum, between 20 and 24 hrs postpartum and between 40 and 48 hrs postpartum. The LLLT was performed with diode laser, with a wavelength of 660 nm (red light), spot size of 0.04 cm^2, energy density of 3.8 J/cm^2, radiant power of 15 mW and 10 s per point, which resulted in an energy of 0.15 J per

point and a total energy of 0.45 J per session. The control group not received treatment. The healing process was assessed by REEDA and Numerical pain scale. The result are t = 1.986 and t =0.946 for experimental group and for control group t = 0.9264 and t = 0.7865The comparison pain scores between the groups is no statistical difference. All postpartum women approved of the low-level laser therapy.

KLEIN MC, GAUTHIER RJ, JORGENSEN SH et al., Journal of Current Clinical Trials (2012) explored that, to compare the outcomes of the current practice of liberally or routinely employing episiotomy (control group) ,restricting episiotomy (experimental group). A randomized controlled trial (RCT). Three university hospitals in Montreal. Seven hundred three low-risk women enrolled at 30 to 34 weeks of gestation were randomized late in labor to the designated trial arm, by parity, and followed up to 3 months postpartum. Antepartum and postpartum information on perineal trauma and pain, pelvic floor symptoms (urinary incontinence), and sexual activity was collected through the use of standard questionnaires; pelvic floor function was measured by electromyographic (EMG) perineometry. Restricting episiotomy use in primiparous women was associated with similar sutured perineal trauma to the liberal or routine approach. Multiparous women in the restricted episiotomy group more often gave birth with an intact perineum (31% compared with 19%, odds ratio (OR) = 1.85, 95% confidence interval (CI) = 1.09 to 3.16). Restriction of episiotomy use among multiparous women resulted in significantly more intact perineums and less perineal suturing.

LUCILA COCA LEVENTHAL, SONIA MARIA et al ,Journal of Midwifery & Women's Health (2012) evaluated that the effectiveness of an ice pack applied for 20 minutes to alleviate perineal pain after spontaneous vaginal birth. We conducted a randomized controlled trial at the Amparo Maternal Birth Center in São Paulo, Brazil. Study participants included 114 nulliparous women

divided into 3 groups (n = 38 per group): experimental (ice packs on the perineum), placebo (water packs at set temperature), and control (no treatment).A numerical scale (0 to 10) was used for pain assessment. A comparison of the average pain at the beginning and after 20 minutes showed a significant reduction of pain.the result mean value is 1.78 with 0.89,0.09 with 1.01 and 0.34 with 0.96

NGUYEN RHN, STEWART EG, HARLOW BL (2012) examined that the pregnancy and delivery characteristics of women with and without vulvodynia. Methods the authors analyzed 227 vulvodynia cases that were less than 45 years old at pain onset; controls were age matched 1:1 to cases and had no history of vulvar pain. Pregnancy and delivery events were assessed after age at first vulvar pain onset (the reference age) in cases and a matched age in controls. Results the authors observed no significant difference between cases and controls in achieving pregnancy after reference age. Also, no difference in pregnancy outcome was observed between cases and controls (P = 0.87). In addition, 37.1% of cases who had vaginal delivery versus 11.3% of controls (P < 0.01) reported pain at 2 months postpartum. Comparing only women with vulvodynia, women who had intermittent pain versus constant pain were more than twice as likely to have a pregnancy (adjusted odds ratio 2.26,95% CI 1.10–4.60).

SOLTÉSZ S, BIEDLER A, OHLMANN P, et al ., Klinikfür Anaesthesiologie Intensive medicine(2011) enumerated that a healthy 31-year-old woman showed a severe septic shock syndrome a few days after vaginal delivery. In the episiotomy wound were found Group A Streptococci and E. coli. Although an antibiotic therapy was instituted immediately, the condition of the patient worsened. Platelet counts fell below 5000/microliter and she developed respiratory, cardiocirculatory and renal insufficiency, so that mechanical ventilation, high-dose-catecholamine therapy and continuous venovenous hemodiafiltration had to be performed. In the course of the disease the patient showed a reversible cardiomegaly with pulmonary hypertension and an extensive

desquamation of the skin. Fever persisted in spite of the fact that in all following clinical and laboratory examinations no septic focus could be revealed any longer. She recovered slowly and could not be weaned from the respirator for four weeks because of a severe critical illness polyneuromyopathy.

ADELE PILLITTERI (2013) evaluated that is a surgical incision of the perineum that is made both to prevent tearing of the perineum and to release pressure on the fetal head with birth, Mediolateral episiotomies have the advantages over midline cuts in that, if tearing occurs beyond the incision, it will be away from the rectum ,creating less danger of complications from rectal mucosal tears. Anal sphincter tears can lead to fecal incontinence later in life.

BRUNNER (2013) stated that the inflammation is a defensive reaction intended to neutralize , control ,or eliminate the offending agent and to prepare the site for repair.it is a nonspecific response (not dependent on a particular cause) that is meant to serve as protective function.

DONNA L WONG , SHANNON E.(2010) stated that an incision into the perineum to enlarge the vaginal outlet is necessary, it is done at this time to minimize soft tissue damage .types are median ,medio lateral , lateral and j shape. Advantages for mother easy to repair and heals better than a lacerated wound, reduction in the duration of 2^{nd} stage,reduction of trauma to the pelvic floor muscle and for fetus minimize intracranial injuries.

DUTTA (2014) listed that the types are mediolateral the incision made in downwards and outwards from the midpoint of the fourchette either to right .2 5cm away from the anus. Median incision commences from the center of fourchette and extends posteriorly along the midline about 2.5cm.Lateral incision starts from about 1cm from centre of fourchette and extends laterally. J shaped the incision begins in the centre of fourchette and directed 1.5cm the directed downwards and outwards along 5 to 7 'o' clock position.

KOZIER AND ERB'S (2014) explored that sitz both is a hip bath used to soke a clients pelvic area. The client sits a special tub or chair and is usually immersed from the midthighs to the iliac crests or umbilicus. Special tubs or chairs are preferred because when the legs are also immersed as in a regular bath tub, blood circulation to the perineum or pelvic area is decreased .Disposable sitz bath are also available.

LIPPINCOTT (2013) evaluated that pain induced by the treatment including surgery, chemotherapy and immunotherapy and also induced by the disease due to direct tumor involvement of bone , nerves, viscera or soft tissue.

LEWIS (2014) Mediators of inflammation are 1) histamine : stored in granules of basophils, mast cell and platelets 2) serotonin: stored in platelets ,mast cells, enterochromaffin cells of GI tract.3) kinin (eg bradykinin) produced from precursor factor kininogen area result of cultivation of hageman factor (XII) of clotting system.4) complement components: (c3a,c4a,c5a) 5) anaphylactic agents genetrated from complement pathway activation. 6) prostaglandin and leukotrienes: produced from arachidonic acid.7)cytokines: for information on cytokines are α interferon, β interleukin 2,11, erythpoitin, il 1 receptor antagonist.

MYLES (2013) explained that as the perineum distends , an episiotomy may very occationally be necessary. This is an incision through the perineal tissue which is designed to enlarge the vulval outlet during birth. As this is a surgical incision it cannot be undertaken unless the mothers given consent. A detailed discussion should take place during pregnancy so that each women is aware of the indication for and implementation of the intervention. It involves incision of the fourchette, the superficial muscle and the skin of the perineum and posterior vaginal wall. Straight bladed blunt ended pair of mayo scissors is used. Blades should be sharp. A single deliberate cut 4 to 5 cm long is made at the correct angle.before that infiltration done lidocaine (0.5 or 1%).

MARIE ELIZABETH (2013) reported that a surgically planned incision on the perineum and the posterior vaginal wall during the second stage of labour is called episiotomy or perineotomy. The time is bulging thinned perineum during contraction just prior to crowing is the ideal time. It made both to prevent tearing the perineum and to release pressure on the fetal head with birth.

J RAJESHWARI , **N A SMITH,K GLASS, et al (March 2011)**Stated that the interesting case of necrotizing fasciitis of the leg following emergency caesarian section in a known intravenous drug user. Postnatal day two she developed pain and swelling in the left leg. In view of her previous history, deep vein thrombosis (DVT) was the initial diagnosis. But, due to clinically worsening symptoms and no response to anticoagulation, further investigations were done which showed necrotizing fasciitis. Due to disease progression, a hip disarticulation was performed and the patient went on to full recovery.

SR. NANCY (2014) stated that hot application is the application of a hot agent, warmer than skin either in a moist or dry form on the surface of the body to relive pain and congestion, to provide warmth, to promote suppuration muscle tone and to soften the exudates. And cold application is the application of a cold agent cooler than skin either in a moist or dry form, on a the surface of the skin , to reduce pain and body temperature, to anaesthetize an area, to check haemorrhage, to control the growth of bacteria , to prevent gangrene ,to prevent edema and reduce inflammation.

SHEBEER.P.BASHEER (2012) explored that pain is an unpleasant, subject sensory and emotional experience associated with actual or potential issue ,damaged or described in terms of such damage." whatever the person experiencing it says it is, existing whenever (he / she) says it does ".

CONCEPTUAL FRAMEWORK

KINGS GOAL ATTAINMENT THEORY

The study is based on Imogen king's goal attainment theory (1997) which would be relavant for hot application on episiotomy. It is an open system. In this system human are in contact with their environment.

The main concept in Imogene kings open system are perception a process of organizing , interpretating and transforming from sense data and memory that drives meaning to ones experience represent ones image of reality and influence ones behavior.

Perception

In this study the researcher perceives that most postnatal mothers had poor wound healing and pain reduction on episiotomy.

Judgement

In this study researcher judge that the hot application is effective in improving wound healing and pain reduction on episiotomy. It provide confidence to tackle the subsequent pregnancy.

Action

In this study the researcher prepare the hot application is effective in improving the wound healing and pain reduction on episiotomy among the postnatal mothers.

Mutual goal setting

In this study it is an activity that includes the postnatal mothers when appropriate in prioritizing the goal and in developing the plan of action to achieve

those goals. Here in this study both the researcher and mothers accept to undergone with the research study.

Reaction

The researcher plan is together moves towards goal attainment. Here the researcher plan to give hot application on episiotomy to experimental group.

Interaction

The act of two or more pesons in mutual presence and sequence of verbal non verbal behaviours that are directed towards goal.

In this study the interaction includes administration of hot application and assessed wound healing and pain in experimental group and no intervention to samples of control group.

Transaction

In this study the transaction includes post test on the assessment of wound healing and pain on episiotomy among the postnatal mothers.

In this study the researcher and the subject come together for an interaction. A different set of perception to exchange. The researcher perceives the subject need to give hot application on episiotomy wound healing and pain to manage the emergency situation confidently in hospital and in community setting.

The researcher communicates the subject by implementing the hot applicaion on episiotomy. Transction takes place. The goal is said to be achieved is an increased level of wound healing and pain in experimental group when compared to the control group.

CHAPTER III

METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. In this chapter the investigator discusses the Research approach, Research design, Variables, Setting, Population, Sample, Sample size, Sampling technique, Criteria for data collection, Description of the tool, Plan for data analysis and production of human rights.

RESEARCH APPROACH

An evaluative research approach was used in this study**.**

RESEARCH DESIGN

True experimental research design (post test only design) was used in this study.

E	R	X	O2
C	R	-	O2

E-Experimental group

C-Control group

R-Randomization

X-Treatment [Hot application by potassium permanganate]

O2-Post test for both group

VARIABLES

Independent variable: Hot application.

Dependent variable: Episiotomy wound healing and pain

Demographic variables: Age of the mother, parity, educational status, occupation, body built, type of family, history of present medical illness, indication of episiotomy and types of episiotomy.

SETTING

This study conducted among the postnatal mothers admitted at selected hospitals, Thanjavur.

Experimental group: Our lady

Our lady of health hospital is a maternity specialized, 300 bedded hospital with an average of 80 normal vaginal deliveries per month.

Control group: KRA

KRA is a 150 bedded hospital with an average of 50 normal vaginal deliveries per month.

POPULATION

The population consisted of postnatal mothers at selected hospitals, Thanjavur.

SAMPLE

In this study the postnatal mothers who had delivered by normal vaginal deliveries with episiotomy.

SAMPLE SIZE

The sample consists of 60 postnatal mothers. [Experimental group - 30samples and Control group-30 samples]

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA

- Postnatal mothers who are willing to participate in the study.
- Postnatal mothers who can understand the Tamil.

EXCLUSION CRITERIA

- Postnatal mothers who have done L.S.C.S and assisted vaginal delivery.
- Postnatal mothers who have received analgesics and antibiotics.

DEVELOPMENT AND DESCRIPTION OF THE TOOL

Tool comprised of 3 parts

Part-I: Demographic variables such as age of the mother, parity, educational status, occupation, body built, type of family, history of present medical illness, indication of episiotomy and types of episiotomy.

Part-II: REEDA scale to assess the episiotomy wound healing.

Part-III: Numerical pain rating scale to assess the pain reduction.

REPORT OF PILOT STUDY

Pilot study was conducted to test the reliability, practicability, validity, and feasibility of the tool. Pilot study was conducted for a period of 6days. The investigator obtained a written permission from the head of the hospital authorities. The purpose of the study was explained to the participants prior to the

study. Pilot study was conducted for 3 postnatal mothers in KRA hospital for experimental group and 3 postnatal mothers in Siva preethy hospital for control group and simple random sampling technique (lottery and table method) was used to select the hospital and sample. The investigator obtained the oral permission from the participants prior to the study. The wound healing and pain reduction was assessed by REEDA and Numerical pain scale respectively. By using true experimental post test only design for experimental group hot application given with potassium permanganate in sitz bath procedure for 3 days and control group received routine care. Post test was conducted on 3rd day by using the same REEDA scale and Numerical pain rating scale for each group. The result of the pilot study was analyzed by the descriptive and inferential statistics and it showed the study was feasible to do. So the main study was proceeded.

RELIABILITY AND VALIDITY OF THE TOOL

The validity of the tool was established with obstetrical and gynaecological experts. The tool was modified according to the suggestions and recommendations of experts and the tool was finalized. The reliability of the tool was established by standard error of measurement method for Numerical pain scale and kappa correlation co efficient formula for REEDA Scale. (r = 0.7)

METHOD O F DATA COLLECTION

Written formal permission obtained from hospital authorities and informed oral consent obtained from each subjects. The samples selected by simple randomized sampling technique and True experimental post test only design used. Hot application given to the postnatal mothers in experimental group. And routine treatment given (Ice pack, moist or dry or topical applications, cleansing the perineum with cloth taking a warm shower) in control group. After 3 days post test

conducted by using the REEDA and Numerical pain rating scale for both experimental and control groups.

SCORING AND INTERPRETATION PROCEDURE

(A) DESCRIPTION OF THE TOOLS

TOOL consisted of III parts,

Part I: Demographic variables.

Part-II: It consisted of REEDA scale to assess the episiotomy wound healing.

Part-III: It consisted of Numerical pain rating scale to assess the pain reduction.

(B) SCORING

PART- II

Part-II: It consisted of REEDA scale to assess the episiotomy wound healing.

$$= \frac{\textbf{OBTAINED SCORE}}{\textbf{TOTAL SCORE}} \times \mathbf{100}$$

TABLE 3.1 Represents the percentage for the levels of wound healing score

LEVEL OF WOUND HEALING	SCORE	PERCENTGE
Good wound healing	0	100%
Mild wound healing	1-5	90-70%
Moderate wound healing	6 -10	60-40%
Severe wound healing	11- 15	30-0%

PART III

Part-III: It consisted of Numerical pain scale to assess the pain reduction.

$$= \frac{\text{OBTAINED SCORE}}{\text{TOTAL SCORE}} \times 100$$

TABLE 3.2 represents the percentage for the levels of pain reduction score

LEVEL OF PAIN	SCORE	PERCENTAGE
No pain	0	100%
Mild pain	1-3	90-70%
Moderate pain	4-6	60-40%
Severe pain	7-10	30-0%

PLAN FOR DATA ANALYSIS

Collected data was tabulated and analyzed by using descriptive and inferential statistical methods.

TABLE 3.3 represents the plan for data analysis

S. NO	**DATA ANALYSIS**	**METHODS**	**REMARKS**
1.	Descriptive statistics	Percentage, Frequency distribution, Mean, standard deviation	To assess the demographic variables of postnatal mothers wound healing and pain in experimental group and control group.
		Correlation	To determine the post test of wound healing and pain of postnatal mothers in both experimental and control group.
2.	Inferential statistics	Unpaired t" test	To compare the post test of episiotomy wound healing and pain among the postnatal mothers in experimental and control group.
		Chi-square test	To find the association between the post test score of wound healing and pain among the postnatal mothers with selected demographic variables.

PROTECTION OF HUMAN SUBJECTS

The research proposal was approved by the dissertation committee prior to conduct pilot study. Formal permission was obtained from the hospital authorities. After the clear explanation about the study, oral consent was obtained from each participant before started the data collection. Assurance was provided to the subject that the anonymity, confidentiality and subject privacy will be guarded.

DATA ANALYSIS IV

CHAPTER-IV

DATA ANALYSIS

This chapter deals with the description of sample characteristics, analysis and interpretation of data collected from postnatal mothers on episiotomy wound healing and pain reduction in experimental and control group.

This chapter represents the organization of data, and the collection of data .It was interpreted by using descriptive and inferential statistics method. The data was coded and analyzed as per the objective of the study.

ORGANIZATION OF DATA

The data has been organized and tabulated as follows.

SECTION: 1

Assessment of demographic variables of postnatal mothers with episiotomy wound healing and pain in experimental and control group.

SECTION: 2

Assessment of post test of episiotomy wound healing and pain among the postnatal mothers in experimental and control group.

SECTION: 3

Compare the significant difference between post test of experimental and control group among the postnatal mothers on episiotomy wound healing and pain.

SECTION: 4

Assessment of correlation between the post test of wound healing and pain among the postnatal mothers in both experimental and control group.

SECTION: 5

Assessment of the significant association between the post test of episiotomy wound healing and pain among the postnatal mothers in both experimental and control group with their selected demographic variables.

PRESENTATION OF DATA

SECTION:1

Assessment of demographic variables of the postnatal mothers with episiotomy wound healing and pain among the postnatal mothers in experimental and control group.

TABLE: 4.1

Frequency and percentage distribution of demographic variables among the postnatal mothers regarding episiotomy wound healing in both experimental and control group.

N = 30+30

S.No	Demographic Variables	Experimental Group		Control Group	
		Frequency	Percentage	Frequency	Percentage
1.	Age in years				
	a)13 to16 years	1	3.3	4	13.33
	b)17 to 20 years	2	6.6	3	10
	c)21 to 25 years	13	43.3	11	36.66
	d)26 to 30 years	13	43.3	9	30
	e)31 to 35 years	1	3.3	3	10
2.	Parity				
	a)Primi	22	73.3	18	60
	b)Multi	8	26.6	12	40
3.	Educational status				
	a)Non formal			2	6.66
	b)High school	6	20	6	20
	c)Higher secondary	5	16.6	5	16.66

	d)Graduate	19	63.3	17	56.66
4.	Place of residence				
	a)Rural	17	56.6	15	50
	b)Urban	13	43.3	15	50
5.	History of present medical illness				
	a)Diabetes mellitus	1	3.33	3	10
	b)Hypertension	2	6.66	2	6.66
	c)Bronchial asthma	2	6.66	2	6.66
	d)Normal condition	25	83.33	23	76.66
6.	Birth weight of the baby				
	a)Below 2.5 kg				
	b)2.5 kg to 3.5 kg	5	16.66	4	13.33
	c)Above 3.5 kg	20	66.6	19	63.33
		5	16.66	7	23.33
7.	Types of episiotomy				
	a)Medio lateral				
	Right	22	73.33	23	76.66
	Left	8	26.66	7	23.33
	b)Median				
	c)Lateral				
	d)J shape				
8.	Occupation				
	a)Arts	13	43.33	13	43.33
	b)Medical	8	26.66	2	6.66

	c)Bio technology	9	30	15	50
9.	Types of family				
	a)Nuclear	20	66.66	20	66.66
	b)Joint	10	33.33	10	33.33
10.	Body built(BMI)				
	a)Below 18	7	23.33	3	10
	b)18 to 24.4	7	23.33	7	23.33
	c)25 to 29	8	26.66	10	33.33
	d)30 above	8	26.66	10	33.33
11.	Indication of episiotomy				
	a)Macrosomia	1	3.33	2	6.66
	b)Elastic perineum	26	86.66	27	90
	c)Breech	3	10	1	3.33

TABLE 4.1 above represents the frequency and percentage distribution of demographic variables among the postnatal mothers regarding episiotomy wound healing in both experimental and control group.

This table revealed that regarding the age, maximum 13(43.3%) postnatal mothers were in age group of 21 to 30 yrs, 2(6.6%) postnatal mothers were in age group of 17 to 20 yrs, 1(3.3%) postnatal mothers were in age group of 13 to16 yrs and 31to 35yrs in experimental group. Where as in control group, 11 (36.66%) postnatal mothers were in age group of 21 to 25 yrs, 9(30%) postnatal mothers in age group of 26 to30yrs, and

4(13.33%) postnatal mothers were in age group of 13 to16yrs and 3(10%) postnatal mothers were in age group of 17 to 20 yrs and 31 to 35yrs.

Regarding the parity, maximum 22(73.3%) postnatal mothers are belongs to primi and 8(26.6%) postnatal mothers are belongs to multi in experimental group. where as in control group, 18(60%) post natal mothers are belongs to primi and 12(40) postnatal mothers are belongs to multi.

Regarding the educational status, maximum 19(63.3%) postnatal mothers studied to graduate, 6(20%) postnatal mothers studied high school, 5(16.6%) postnatal mothers studied higher secondary and none of them in non formal in experimental group. Where as in control group, 17(56.66%) postnatal mothers studied graduate, 6(20%) postnatal mothers studied high school, 5(16.66%) postnatal mothers studied higher secondary, 2(6.66%) postnatal mothers studied non formal.

Regarding the place of residence, maximum 17(56.6%) postnatal mothers were living in rural area and 13(43.3%) postnatal mothers were living to urban in experimental group. where as in control group, 15 (50%) postnatal mothers were living in rural and urban area.

Regarding the history of present medical illness, maximum 25(83.33%) postnatal mothers were in normal condition ,2(6.66%) postnatal mothers were in hypertension and bronchial asthma and 1(3.33%) postnatal mothers were having diabetes mellitus in experimental group. Where as in control group 23(76.66%) postnatal mothers were in normal condition , 3(10%) postnatal mothers were having Diabetes mellitus and 2(6.66%) postnatal mothers were having bronchial asthma and hypertension.

Regarding the birth weight of the baby, maximum 20(66.6%) postnatal mothers were delivered between 2.5 kg to 3.5 kg of newborn, 5(16.66%) postnatal mothers were delivered in the kg of (below 2.5 kg and above 3.5) in experimental group. Where as in control group,19(63.33%) postnatal mothers delivered between 2.5 kg to 3.5 kg of

newborn, 7(23.33%) postnatal mothers delivered in the kg of above 3.5 and 4(13.33%) postnatal mothers delivered below 2.5 kg of newborn.

Regarding the types of episiotomy, maximum 22(73.33%) postnatal mothers were delivered the newborn with the help of Medio lateral (right) and 8(26.66%) postnatal mothers were delivered the newborn with the help of left episiotomy procedure in experimental group. Where as in control group, 23(76.66%) postnatal mothers delivered the newborn with the help of medio lateral (Right) episiotomy procedure and 7(23.33%) of postnatal mothers delivered medio lateral (left).

Regarding the occupation, maximum 13(43.33%) postnatal mothers were working in arts, 9(30%) postnatal mothers were belongs to biotechnology and 8(26.66%) postnatal mothers were belongs to medical field in experimental group. where as in control group,15(50%) postnatal mothers were working in biotechnology, 13(43.33%) postnatal mothers were belongs to arts and 2(6.66%) postnatal mothers were belongs to medical field.

Regarding the types of family, maximum 20 (66.66%) postnatal mothers were belongs to nuclear family and 10(33.33%) postnatal mothers were belongs to joint family in experimental and control group.

Regarding the body built (BMI), maximum 7(23.33%) postnatal mothers were having normal BMI and below 18(malnourished), 8(26.66%) postnatal mothers were obese and over obese, in experimental group. Where as in control group 7(23.33%) postnatal mothers were having normal BMI, 10(33.33%) postnatal mothers were obese and over obese and 3(10%) postnatal mothers were malnourished.

Regarding indication of episiotomy, maximum 26(86.66%) postnatal mothers had elastic episiotomy and 3(10%) postnatal mothers of fetus had Breech and 1(3.33%) postnatal mothers are had macrosomia . Where as in control group 27(90%) postnatal mothers had elastic perineum, 2(6.66%) postnatal mothers of fetus had Macrosomia and 1(3.33) postnatal mothers had Breech delivery.

TABLE: 4.2

Frequency and percentage distribution of demographic variables among the postnatal mothers regarding episiotomy pain in both experimental and control group.

N = 30+30

S.NO	Demographic Variables	Experimental Group		Control Group	
		Frequency	Percentage	Frequency	Percentage
1.	Age in years				
	a)13 to 16 years	1	3.3	6	20
	b)17 to 20 years	2	6.6	10	33.33
	c)21 to25 years	17	56.6	6	20
	d)26 to30 years	13	43.3	6	20
	e)31 to 35 years	1	3.3	2	6.66
2.	Parity				
	a)Primi	22	73.3	18	60
	b)Multi	8	26.6	12	40
3.	Educational status				
	a)Non formal			2	6.66
	b)High school	6	20	6	20
	c)Higher secondary	5	16.6	5	16.66
	d)Graduate	19	63.3	17	56.66
4.	Place of residence				
	a)Rural	17	56.6	15	50
	b)Urban	13	18.57	15	50

5.	History of present medical illness				
	a)Diabetes mellitus	2	6.66	2	6.66
	b)Hypertension	2	6.66	2	6.66
	c)Bronchial asthma	1	3.33	2	6.66
	d)Normal condition	25	83.33	24	80
6.	Birth weight of the newborn				
	a)Below 2.5 kg	4	13.3	4	13.33
	b)2.5 kg to 3.5 kg	20	80	19	63.33
	c)Above 3.5 kg	6	6.66	7	23.33
7.	Types of episiotomy				
	a)Medio lateral				
	Right	23	76.66	25	83.33
	Left	7	23.33	5	16.66
	b)Median				
	c)Lateral				
	d)J shape				
8.	Occupation				
	a)Arts	11	36.66	13	43.33
	b)Medical	7	23.33	2	6.66
	c)Bio technology	12	40	15	50

9.	Types of family				
	a)Nuclear	19	63.33	20	66.66
	b)Joint	11	36.66	10	33.33
10.	Body built(BMI)				
	a)Below 18	3	10	3	10
	b)18 to 24.4	10	33.33	7	23.33
	c)25 to 29	9	30	10	33.33
	d)30 above	8	26.66	10	33.33
11.	Indication of episiotomy				
	a)Macrosomia	1	3.33	2	6.66
	b)Elastic perineum	26	86.66	27	90
	c)Breech	3	10	1	3.33

TABLE 4.2 above represents the frequency and percentage distribution of demographic variables among the postnatal mothers regarding episiotomy pain in both experimental and control group.

This table revealed that regarding the age, maximum 17 (56.6%) of postnatal mothers were in age group of 21to 25 yrs, 13(43.3%) postnatal mothers were in age group of 26 to 30 yrs, 2(6.6%) postnatal mothers were in age group of 17 to 20yrs and 1(3.3%) postnatal mothers were in 13 to 16yrs and 31to36 yrs in experimental group. Where as in control group, 10(33.33%) postnatal mothers were in age group of 17 to 20yrs, 6(20%) postnatal mothers in age group of 13 to 16yrs, 21to 30yrs and 26 to 30yrs and 2(6.66%) postnatal mothers were in age group of 31to 35yrs.

Regarding the parity, maximum 22(73.3%) postnatal mothers were belongs to primi and 8(26.6%) postnatal mothers were belongs to multi in experimental group. where as in control group, 18(60%) post natal mothers were belongs to primi and 12(40%) postnatal mothers were belongs to multi.

Regarding the educational status, maximum 19(63.3%) postnatal mothers studied graduate, 6(20%) postnatal mothers studied high school ,5(16.6%) postnatal mothers studied higher secondary and none of them in non formal in experimental group. Where as in control group, 17(56.66%) postnatal mothers studied graduate, 6(20%) postnatal mothers studied high school,5(16.66%) postnatal mothers studied higher secondary, 2(6.66%) postnatal mothers studied non formal.

Regarding the place of residence, maximum 17(56.6%) postnatal mothers were living in rural area and 13(43.3%) postnatal mothers were living to urban in experimental group. where as in control group, 15(50%) postnatal mothers were living in rural and urban area.

Regarding the history of present medical illness, maximum 25(83.33%) postnatal mothers were in normal condition, 2(6.66%) postnatal mothers were in diabetes mellitus and hypertension. And 1(3.33%) postnatal mothers were having bronchial asthma in experimental group. Where as in control group 24 (80%) postnatal mothers were in normal condition , and 2(6.66%) postnatal mothers were having Diabetes mellitus bronchial asthma and hypertension.

Regarding the birth weight of the baby, maximum 20(80%) postnatal mothers were delivered between 2.5 kg to 3.5 kg of newborn, 6(6.66%) postnatal mothers were delivered in the kg of above 3.5 and 4(13.3%) below 2.5 kg in experimental group. Where as in control group,19(63.33%) postnatal mothers delivered between 2.5 kg to 3.5 kg of newborn, 7(23.33%) postnatal mothers delivered in the kg of above 3.5 and 4(13.33%) postnatal mothers delivered below 2.5 kg of newborn.

Regarding the types of episiotomy, maximum 23 (76.66 %) postnatal mothers delivered the newborn with the help of Medio lateral (right) and 7(23.33%) postnatal mothers delivered the newborn with the help of left episiotomy procedure in experimental group. Where as in control group, 25 (83.33%) postnatal mothers delivered the newborn with the help of Medio lateral (Right) episiotomy procedure and 5(16.66%) postnatal mothers delivered Medio lateral (left).

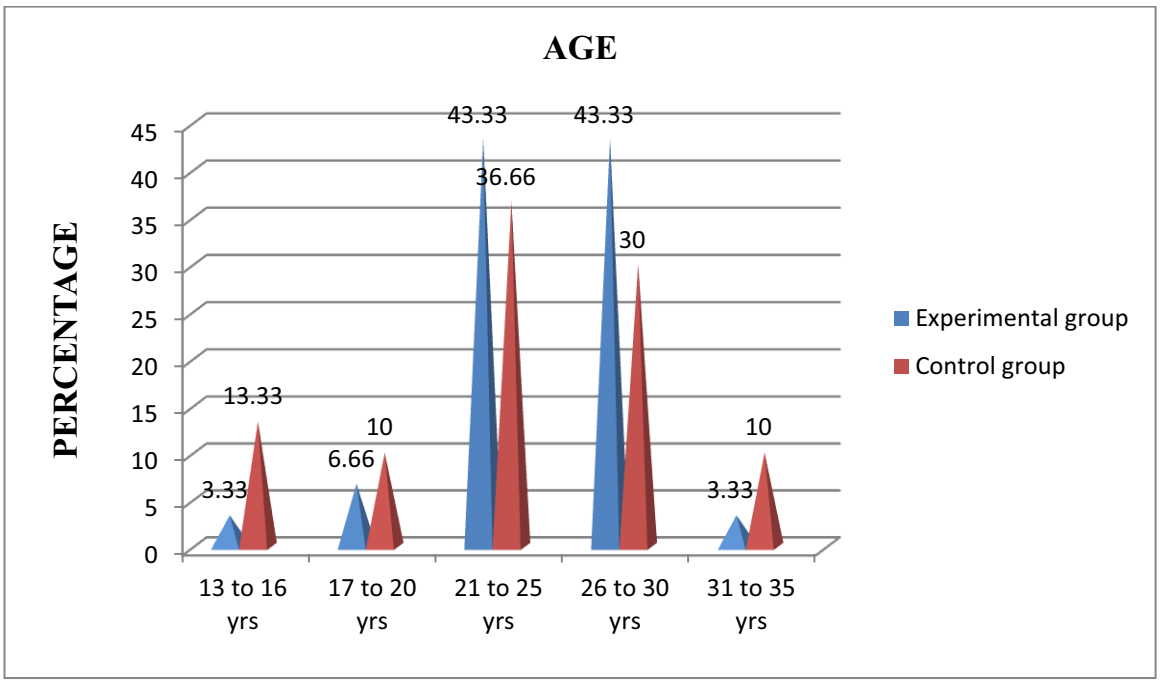
Regarding the occupation, maximum 12(40%) of postnatal mothers were working in biotechnology, 11(36.66%) postnatal mothers were belongs to arts and 7(23.33%) postnatal mothers were belongs to medical field in experimental group. where as in control group,15(50%) of postnatal mothers were working in biotechnology, 13(43.33%) of postnatal mothers were belongs to arts and 2(6.66%) postnatal mothers are belongs to medical field.

Regarding the types of family, maximum 19 (63.33%) postnatal mothers belongs to nuclear family and 11(36.66%) postnatal mothers belongs to joint family in experimental and where as in control group 20(66.66%) postnatal mothers belongs to nuclear and 10(33.33%) postnatal mothers belongs to joint family.

Regarding the body built (BMI), maximum 10(33.33%) postnatal mothers had normal BMI, 9(10%) postnatal mothers were obese, and 8(26.66%) postnatal mothers were over obese and 3(10%) postnatal mothers were malnourished in experimental group. Where as in control group 7(23.33%) postnatal mothers had normal BMI, 10(33.33%) postnatal mothers were obese and over obese and 3(10%) postnatal mothers were malnourished.

Regarding indication of episiotomy, maximum 26(86.66%) postnatal mothers had elastic episiotomy and 3(10%) postnatal mothers undergone breech delivery and 1(3.33%) postnatal mothers had macrosomia . Where as in control group 27(90%) postnatal mothers had elastic perineum, 2(6.66%) postnatal mothers had macrosomia and 1(3.33) postnatal mothers had undergone breech delivery.

FIGURE 4.1: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON AGE



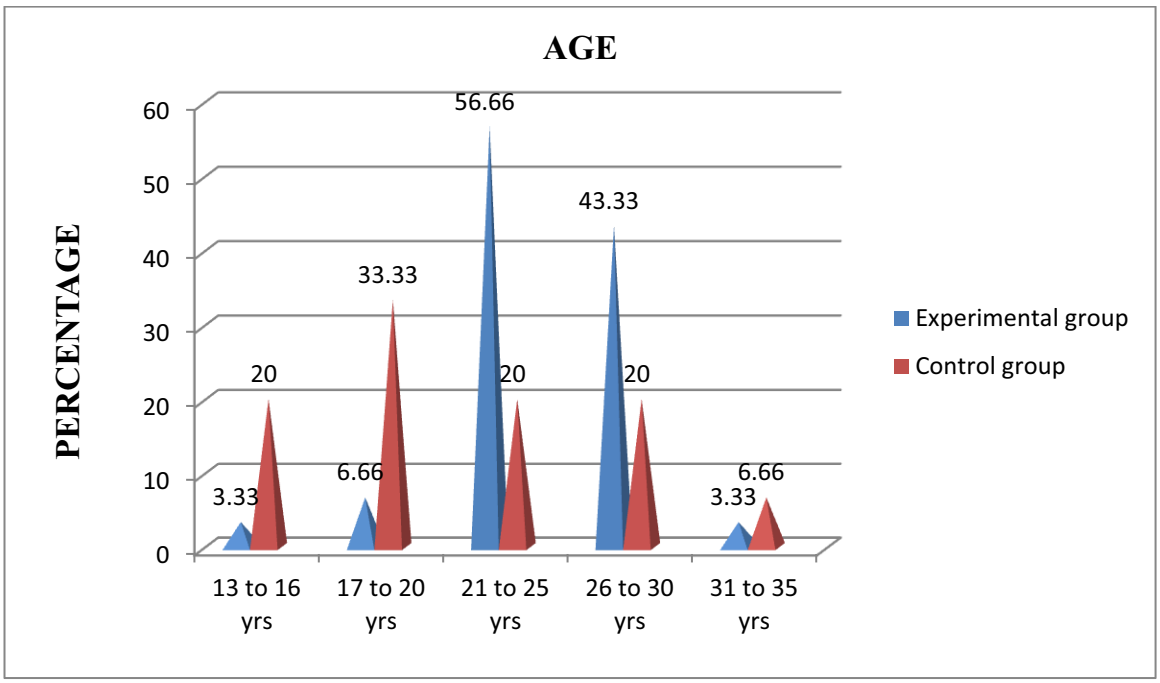
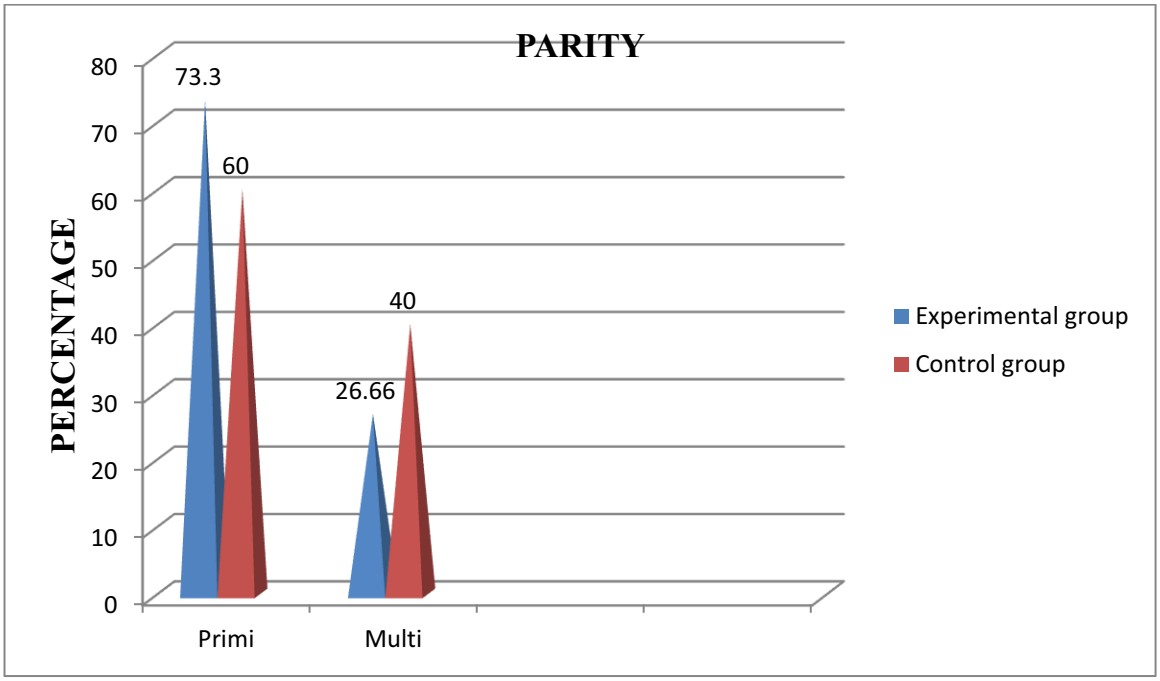


FIGURE 4.2: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON PARITY.



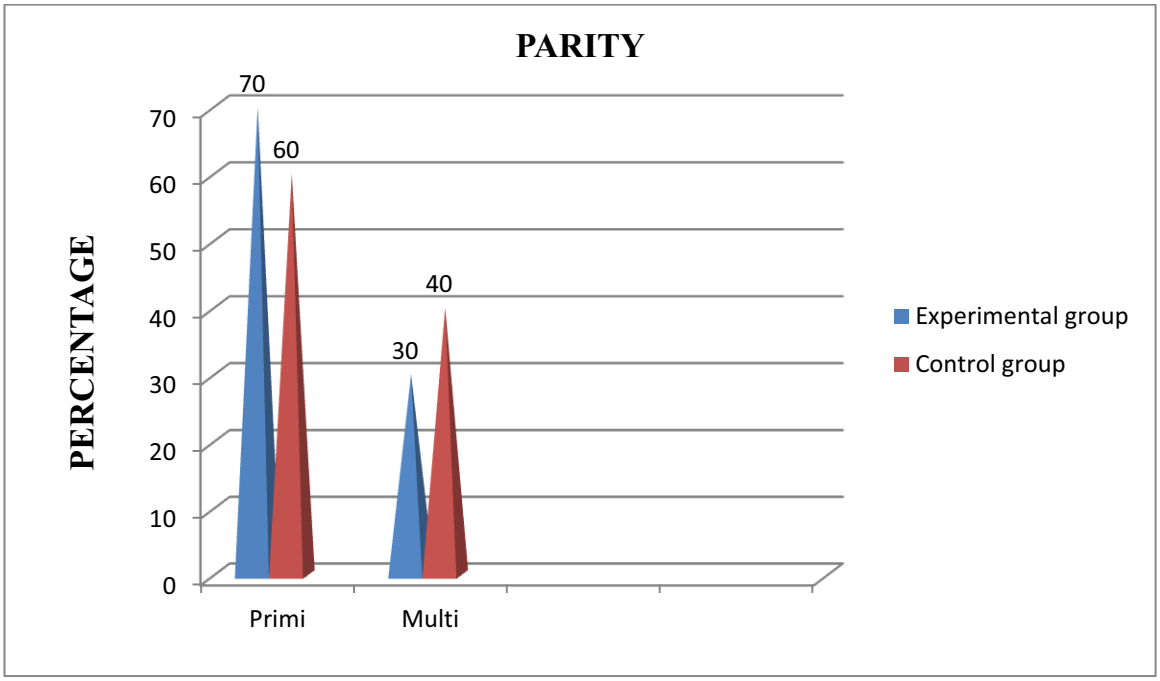
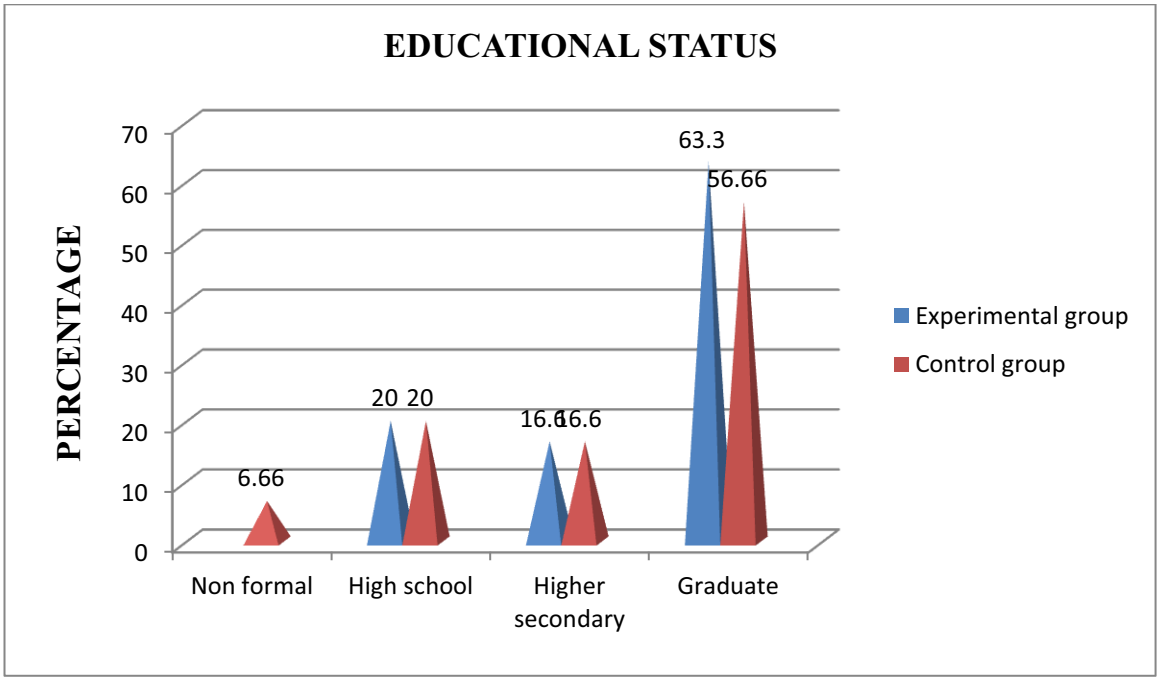


FIGURE4.3: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON EDUCATIONAL STATUS.



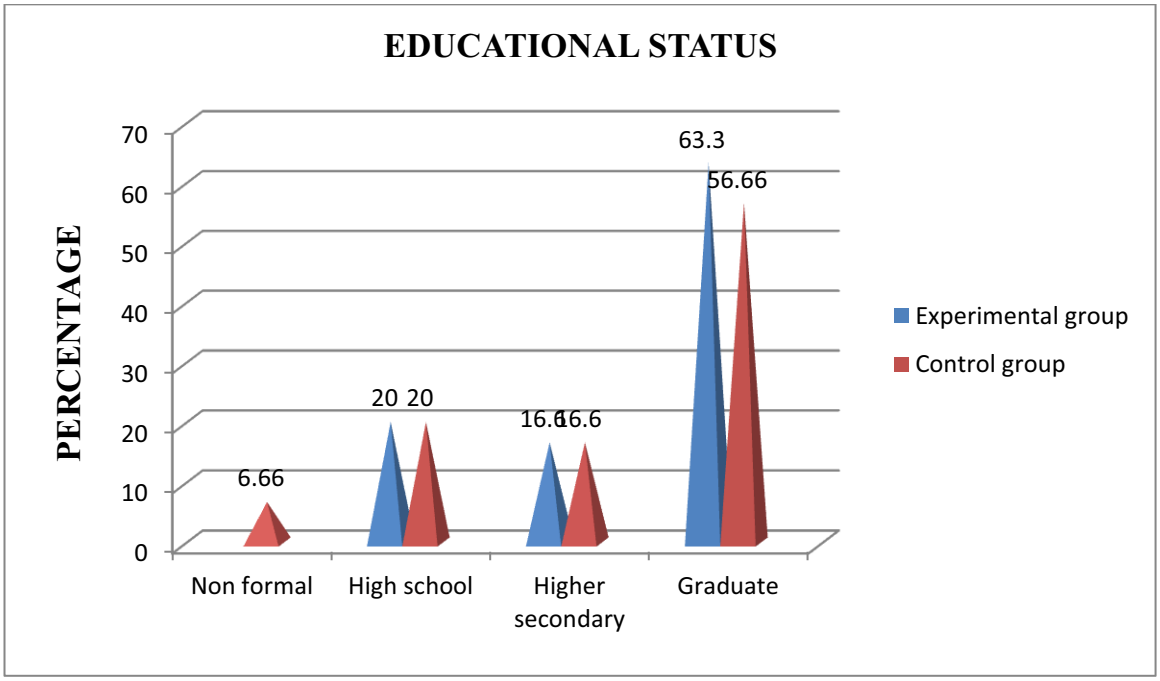
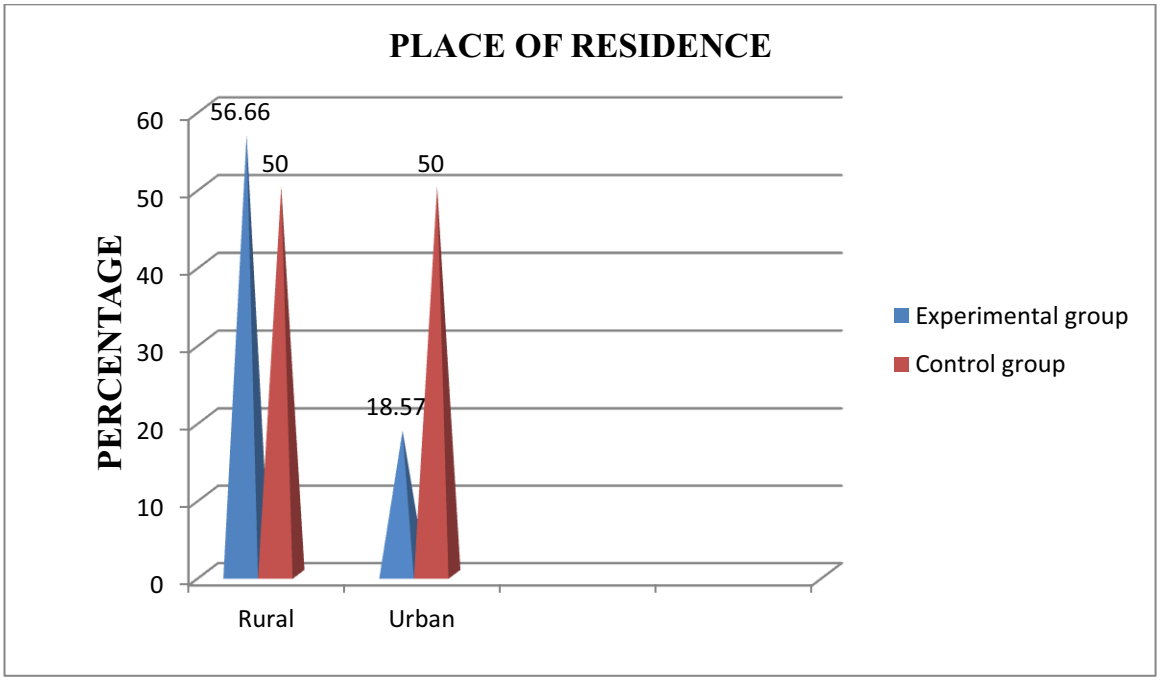


FIGURE 4.4:PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON PLACE OF RESIDENCE.



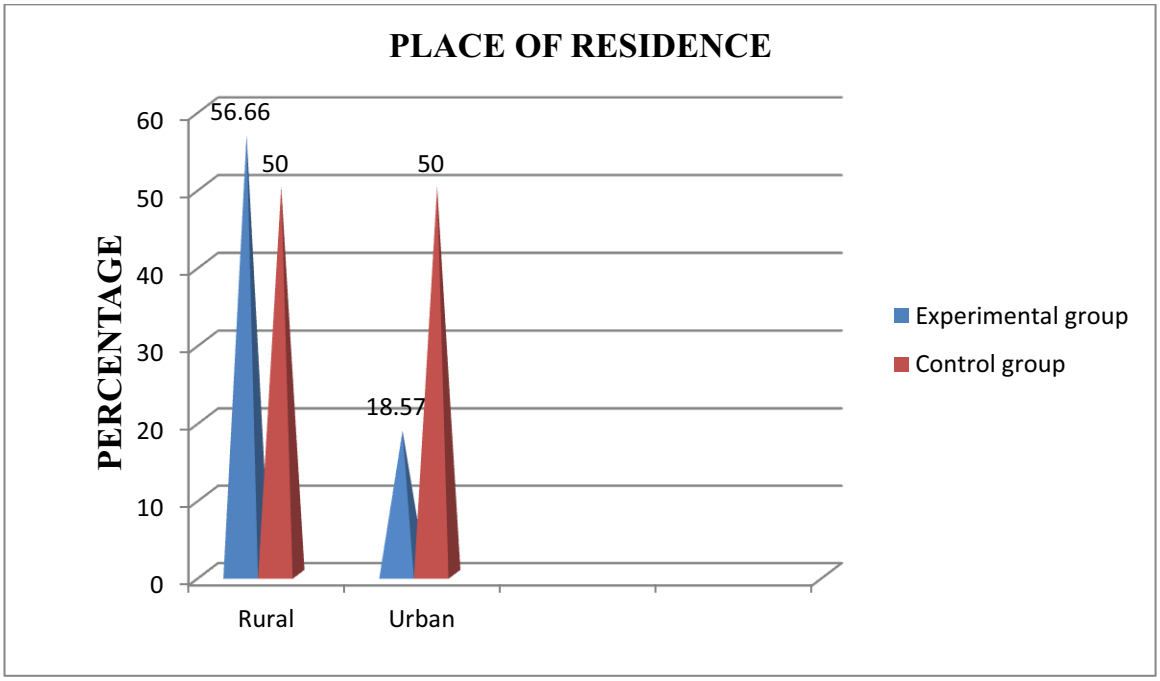
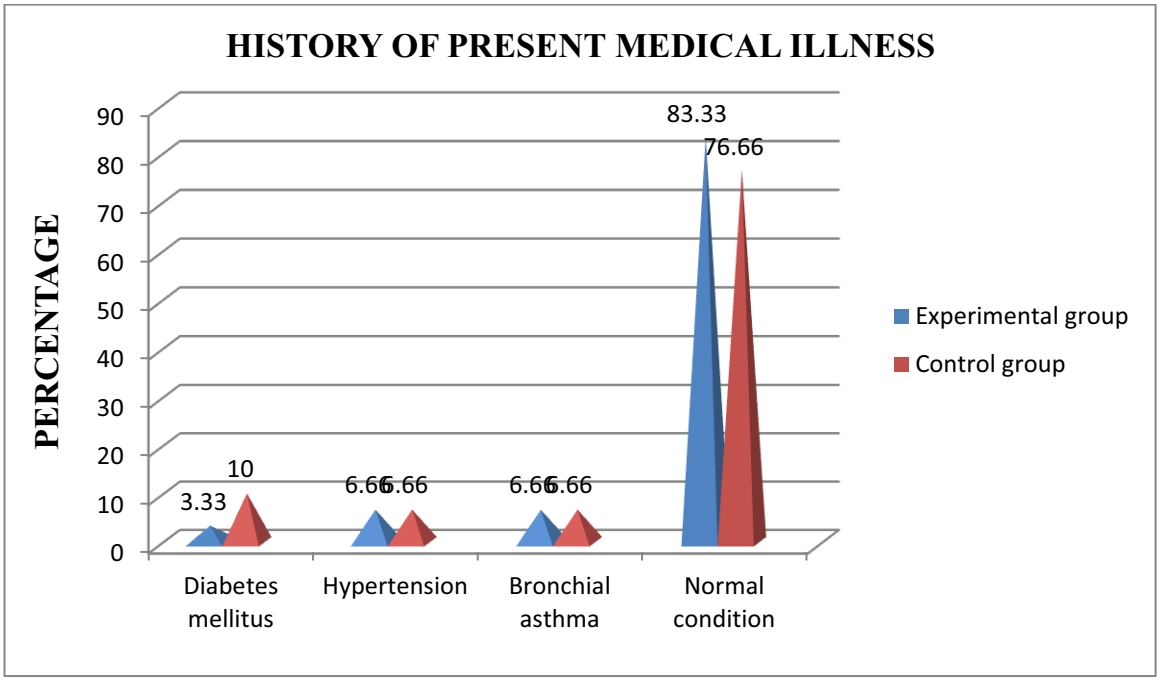


FIGURE4.5:PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON HISTORY OF PRESENT MEDICAL ILLNESS.



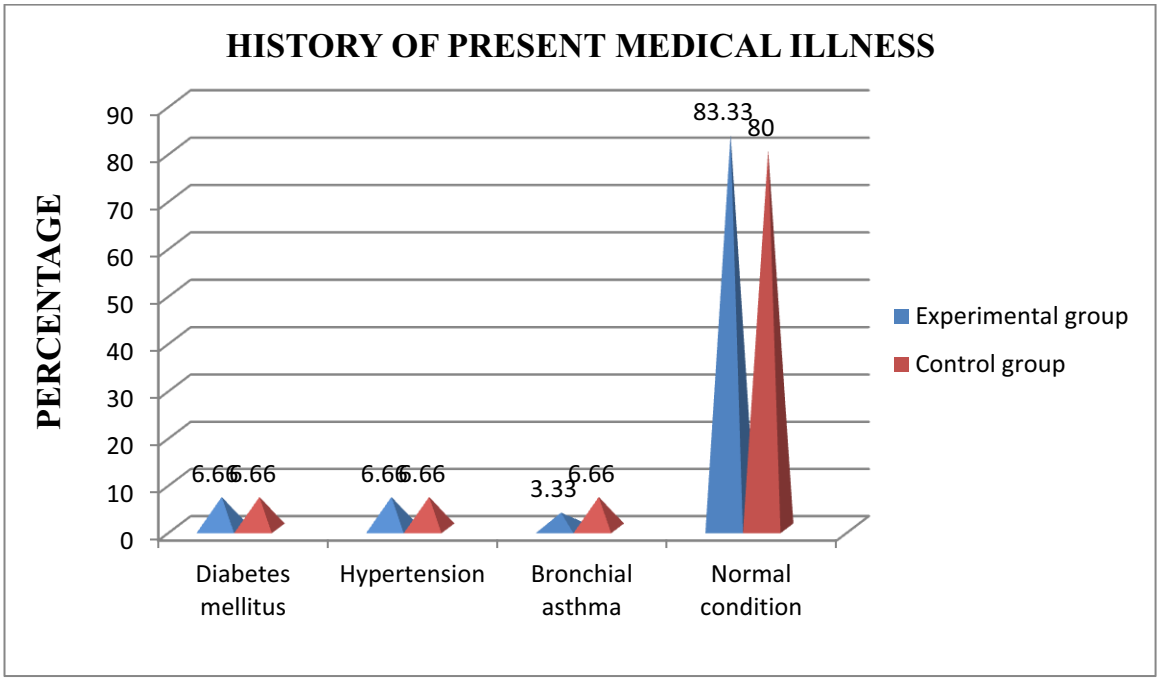
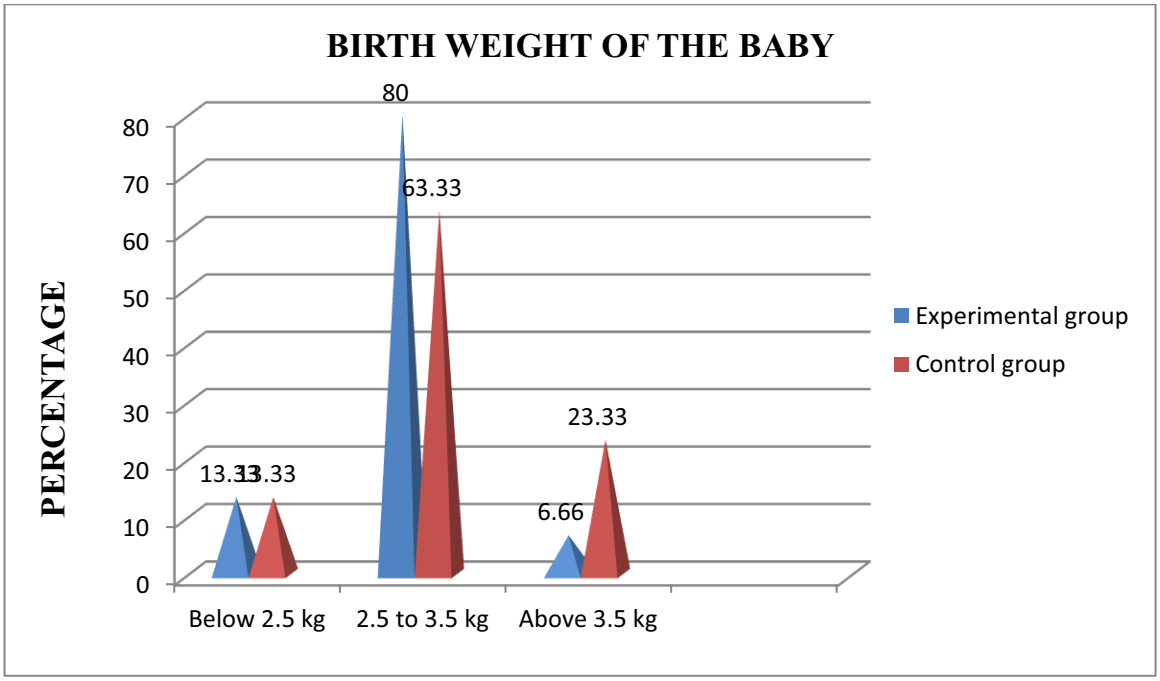


FIGURE 4.6: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON BIRTH WEIGHT OF THE BABY.



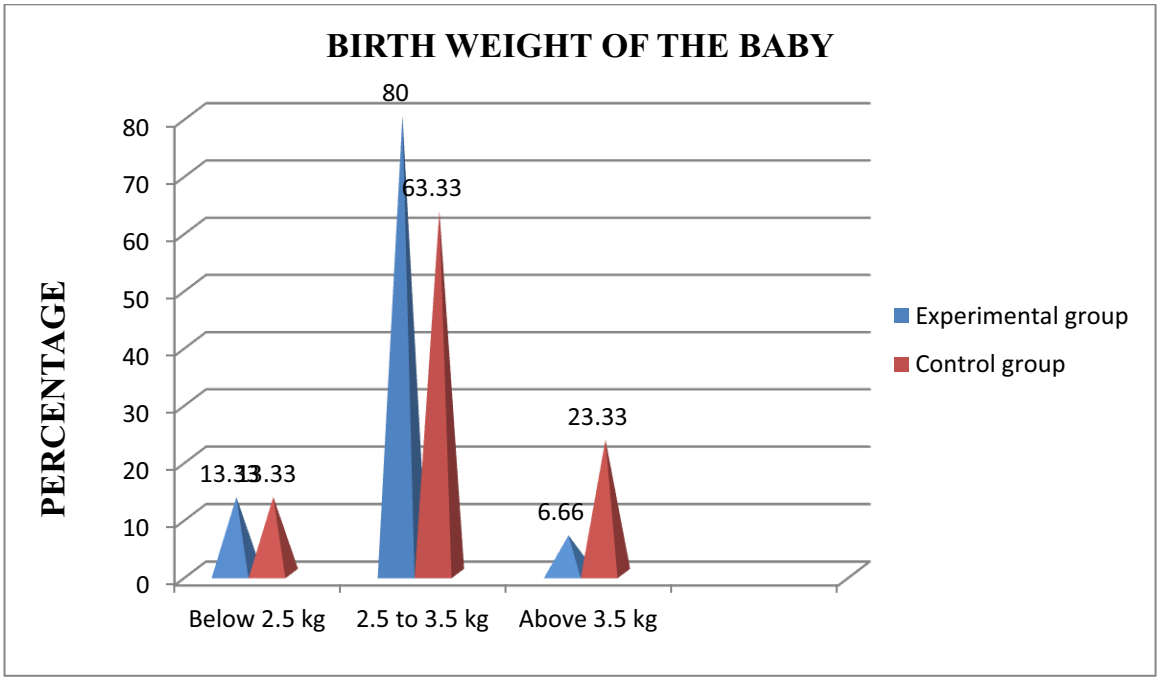
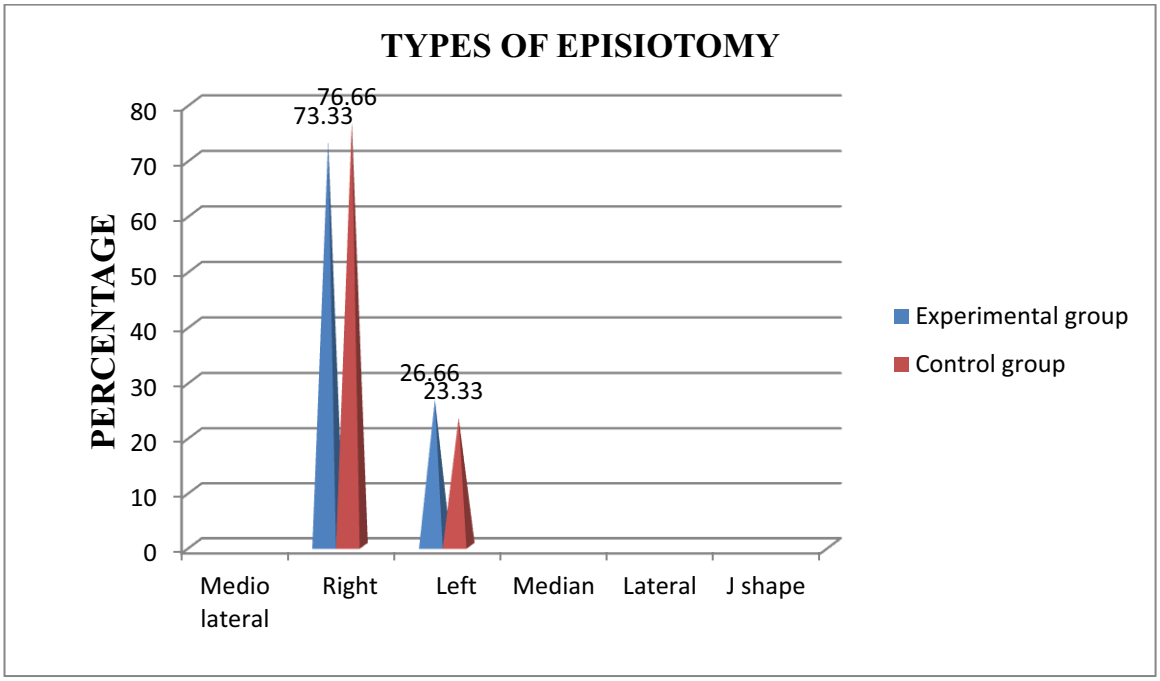


FIGURE4.7:PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON TYPES OF EPISIOTOMY.



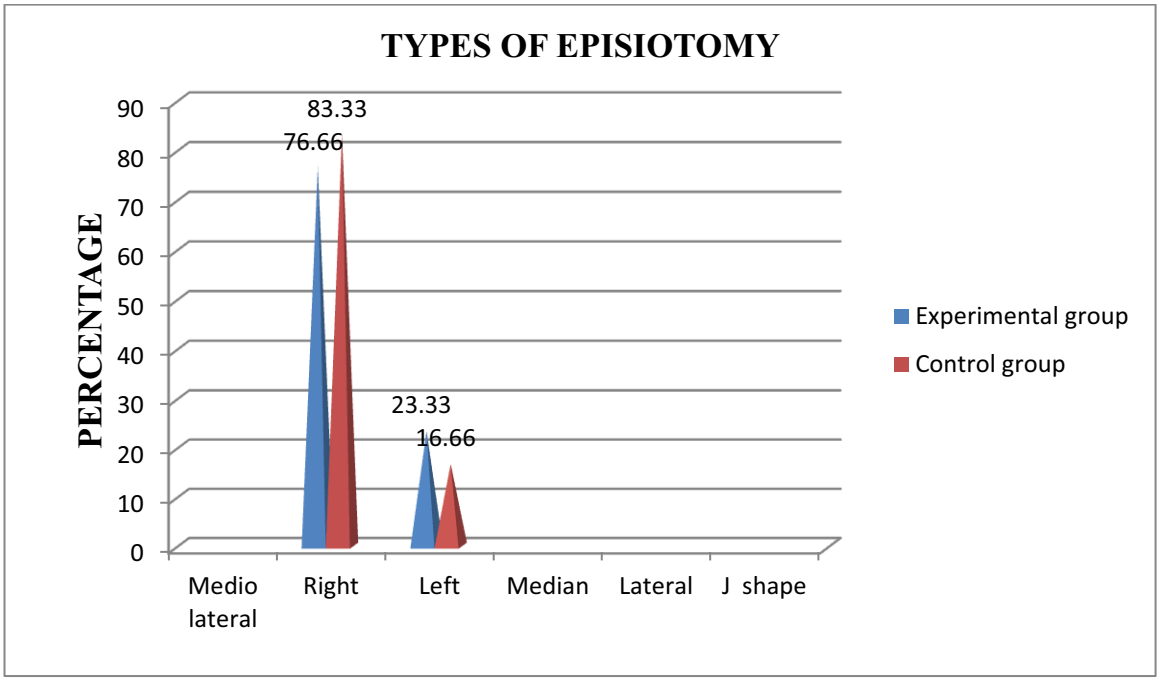
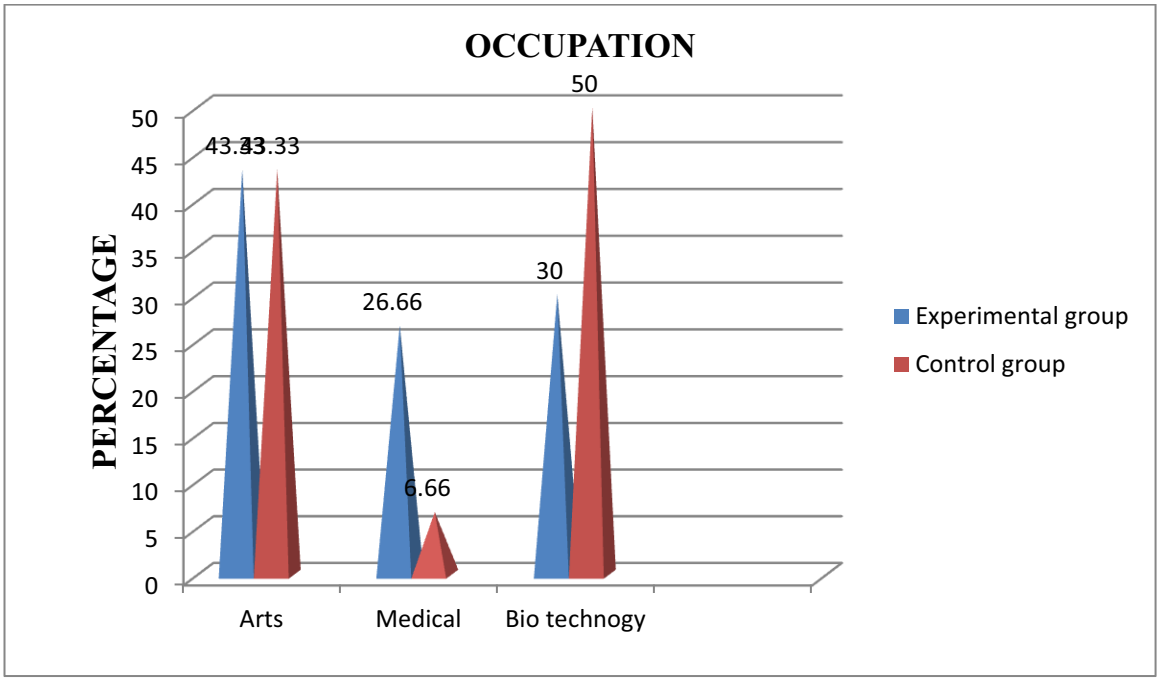


FIGURE 4.8:PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON OCCUPATION



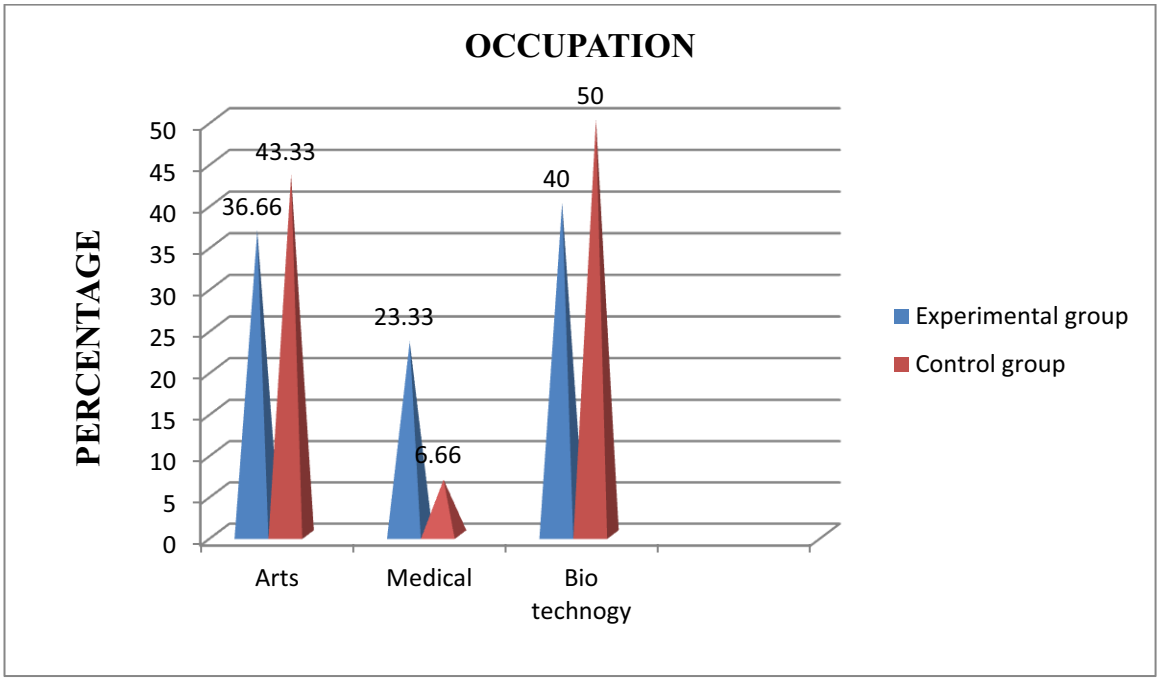
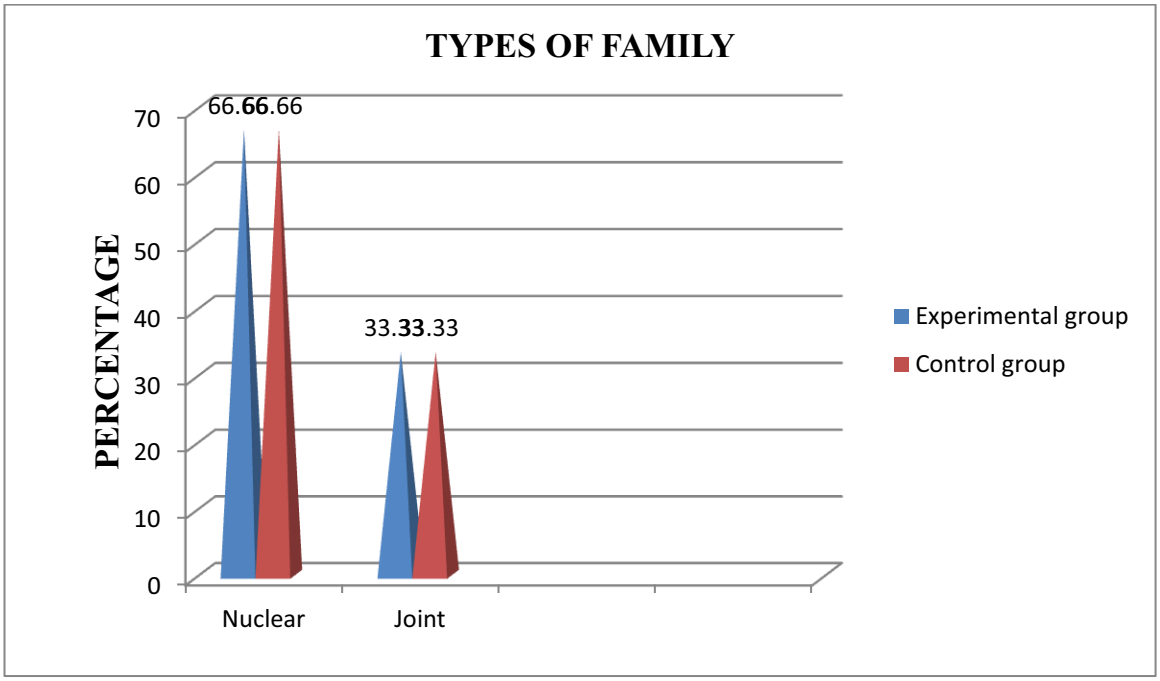


FIGURE4.9:PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL GROUP AND CONTROL GROUP BASED ON TYPES OF FAMILY



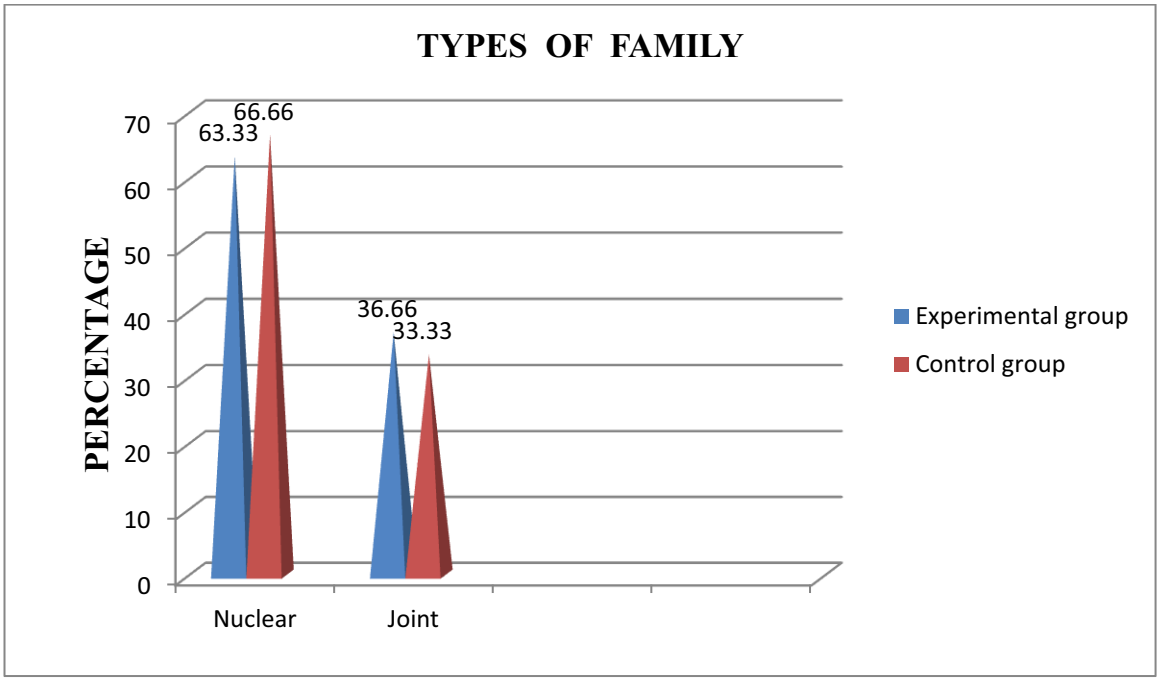
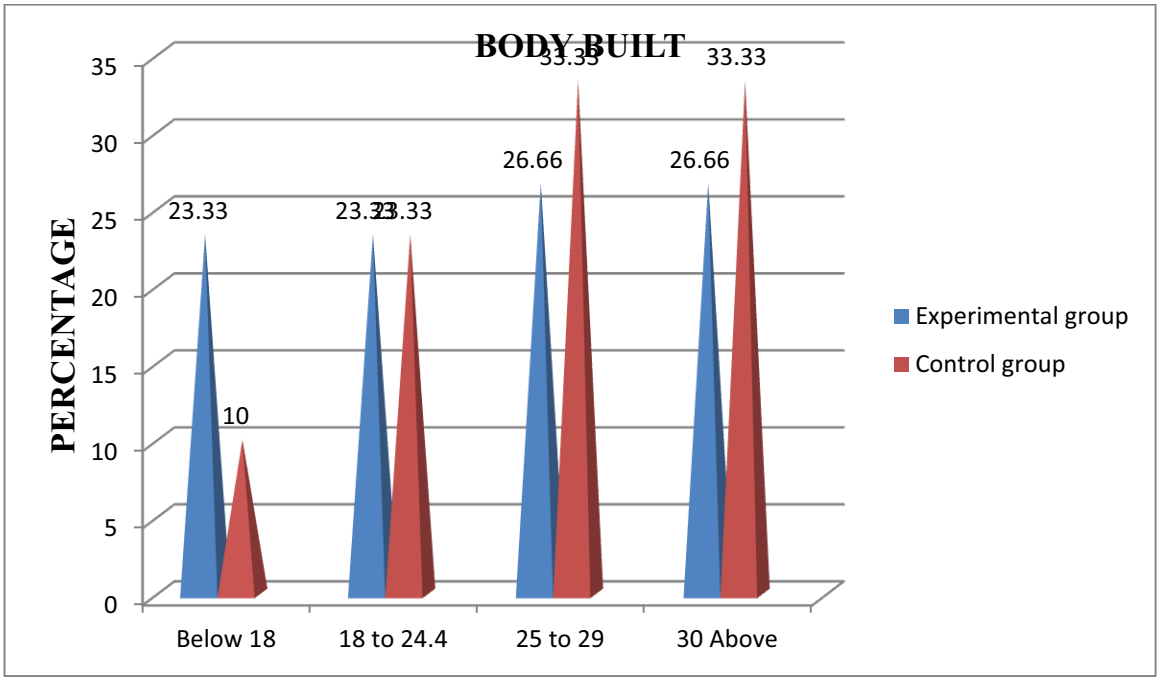


FIGURE 4.10: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON BODY BUILT



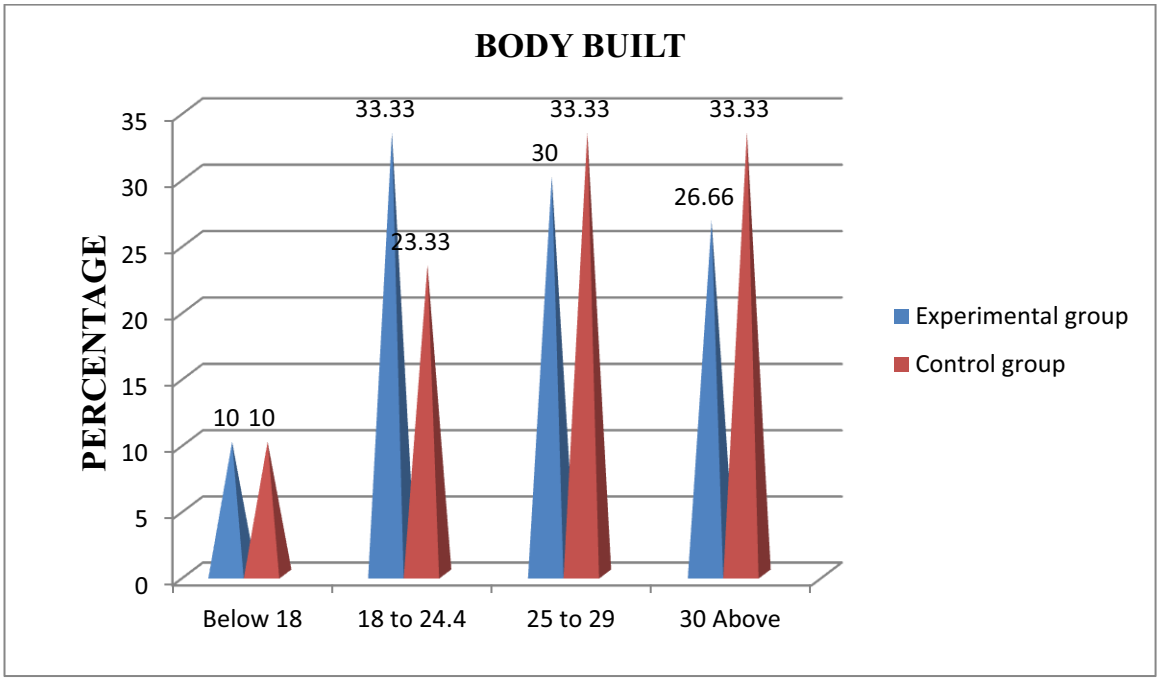
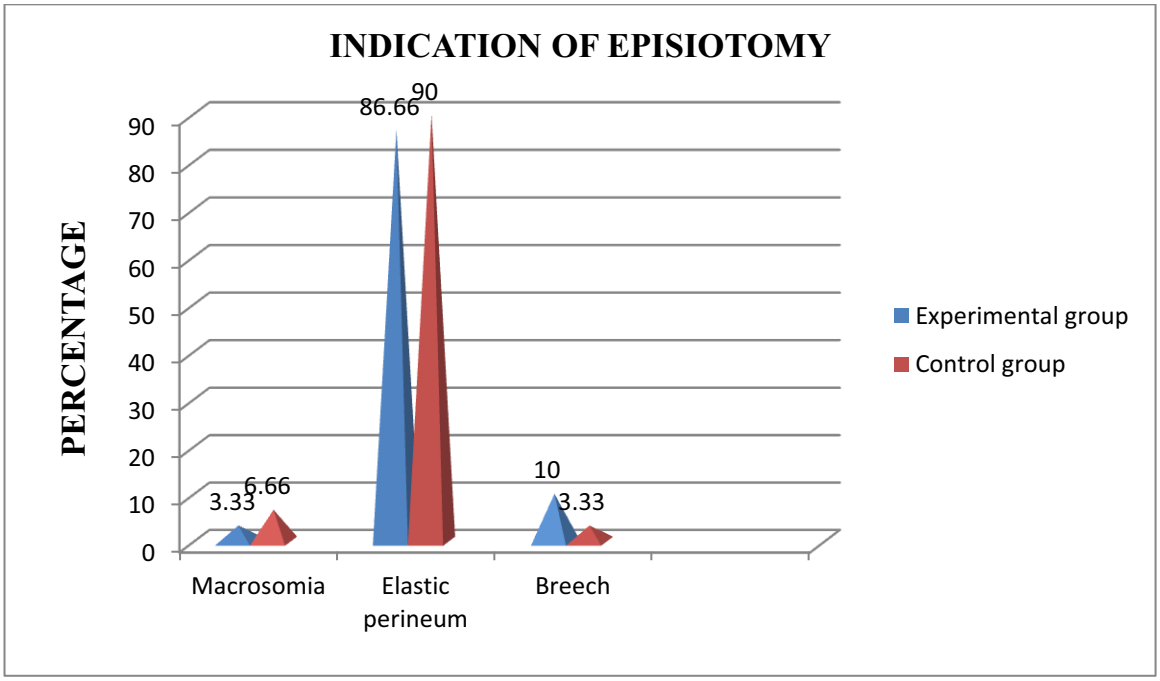
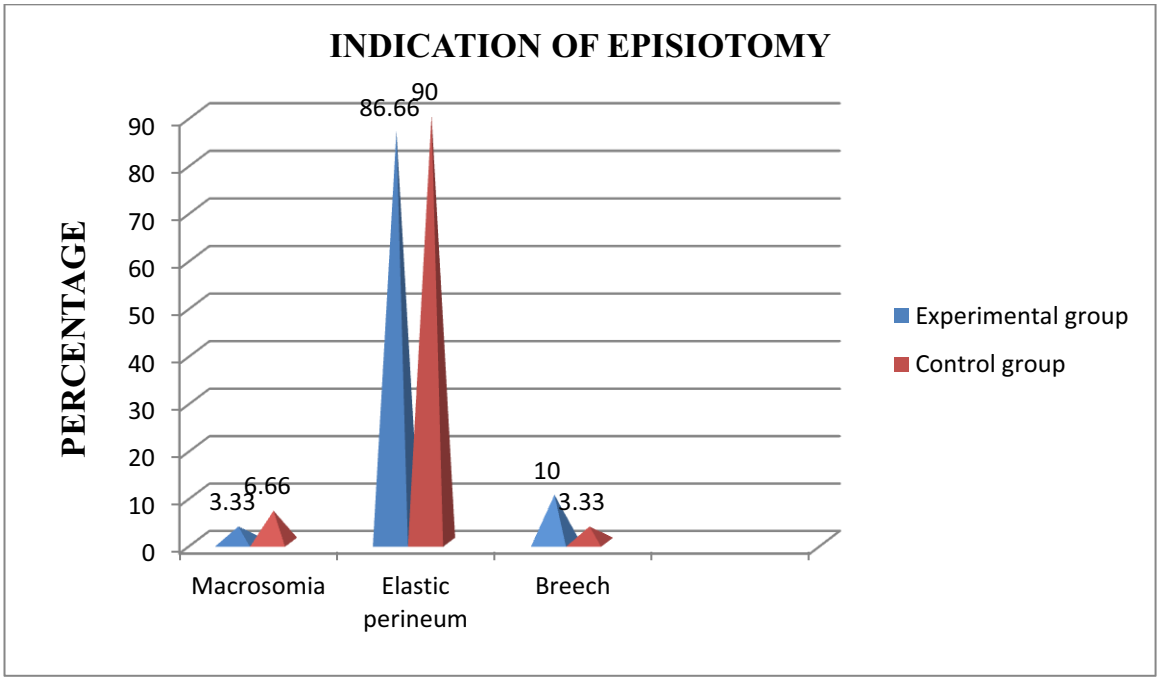


FIGURE 4.11: PERCENTAGE DISTRIBUTION EPISIOTOMY WOUND HEALING AND PAIN AMONG THE POSTNATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP BASED ON THE INDICATION OF EPISIOTOMY.





SECTION : 2

Assessment of post test levels episiotomy wound healing and pain among the postnatal mothers in experimental and control group.

TABLE : 4.3

Frequency and percentage distribution of post test levels of episiotomy wound healing among the postnatal mothers in experimental and control group.

N=30+30= 60

S. NO	LEVELS OF WOUND HEALING	EXPERIMENTAL GROUP		CONTROL GROUP	
		FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1.	MILD WOUND HEALING	22	73.33%	16	53.33%
2.	MODERATE WOUND HEALING	8	26.66%	8	26.66%
3.	SEVERE WOUND HEALING	-	-	6	20%

TABLE 4.3 represents frequency and percentage distribution of post test levels of episiotomy wound healing among the postnatal mothers in experimental and control group.

This table revealed that, 22(73.33%) postnatal mothers had mild wound healing and 8(26.66%) postnatal mothers had moderate wound healing in experimental group. Where as in control group 16(53.33%) postnatal mothers had mild wound healing, 8(26.66%) postnatal mothers had moderate wound healing and 6(20%) postnatal mothers had severe wound healing.

TABLE 4.4

Frequency and percentage distribution of post test of episiotomy pain among the postnatal mothers in experimental and control group.

N=30+30=60

S.NO	LEVELS OF PAIN	EXPERIMENTAL GROUP		CONTROL GROUP	
		FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1.	MILD PAIN	21	70%	17	56.66 %
2.	MODERATE PAIN	9	30%	7	23.33 %
3.	SEVERE PAIN	-	-	6	20%

TABLE 4.4 represents frequency and percentage distribution of post test of episiotomy pain among the postnatal mothers in experimental and control group.

This table revealed that, 21 (70%) postnatal mothers had mild pain and 9(30%) postnatal mothers had moderate pain in experimental group. Where as in control group 17(56.66%) postnatal mothers had mild pain, 7(23.33%) postnatal mothers had moderate pain and 6(20%) postnatal mothers had severe pain.

SECTION: 3

Compare the significant difference between post test levels of experimental group and control group among the postnatal mothers on episiotomy wound healing and pain.

TABLE 4.5

Compare the significant difference between experimental and control group among the postnatal mothers on episiotomy wound healing and pain.

N = 30 +30 =60

S.NO	TEST	EXPERIMENTAL GROUP		CONTROL GROUP		Unpaired ‘‘t” value
		MEAN	SD	MEAN	SD	
1.	Wound healing Post test	4.8	1.7397	6	3.8122	t = 13.8906 significant
2.	Pain Post test	3.8333	1.4395	4.0666	2.1359	t = 15.9465 significant

TABLE 4.5

Represents the compare the significant difference between experimental and control group among the postnatal mothers on episiotomy wound healing and pain.

The analysis revealed that mean value 4.8 with standard deviation 1.7397of post test of wound healing has significant to the post test of pain mean value 3.8333with standard deviation 1.4395and the ‘t’ value CV = 13.8906 and the TV = 2.01(CV >TV) which is significant at 0.05 level. where as in control group the mean value 6 with

standard deviation 3.8122 has significant to the post test of pain mean value 4.0666 with standard deviation 2.1359 and the‘ t’ value CV = 15.9465and the TV = 2.01(CV > TV) which is significant at 0.05 level.

The statistical analysis revealed that there is significant difference in post test scores of wound healing and pain in experimental and control group. So the hot application was effective.

FIGURE 4.12 Compare the significant difference between experimental and control group among the postnatal mothers on episiotomy wound healing.

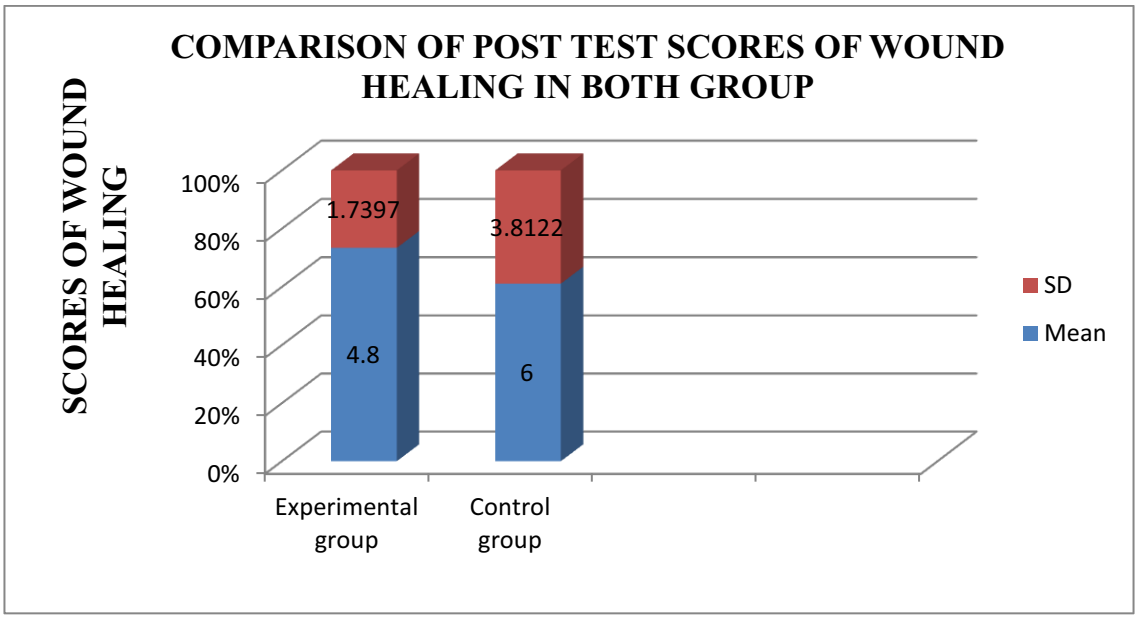
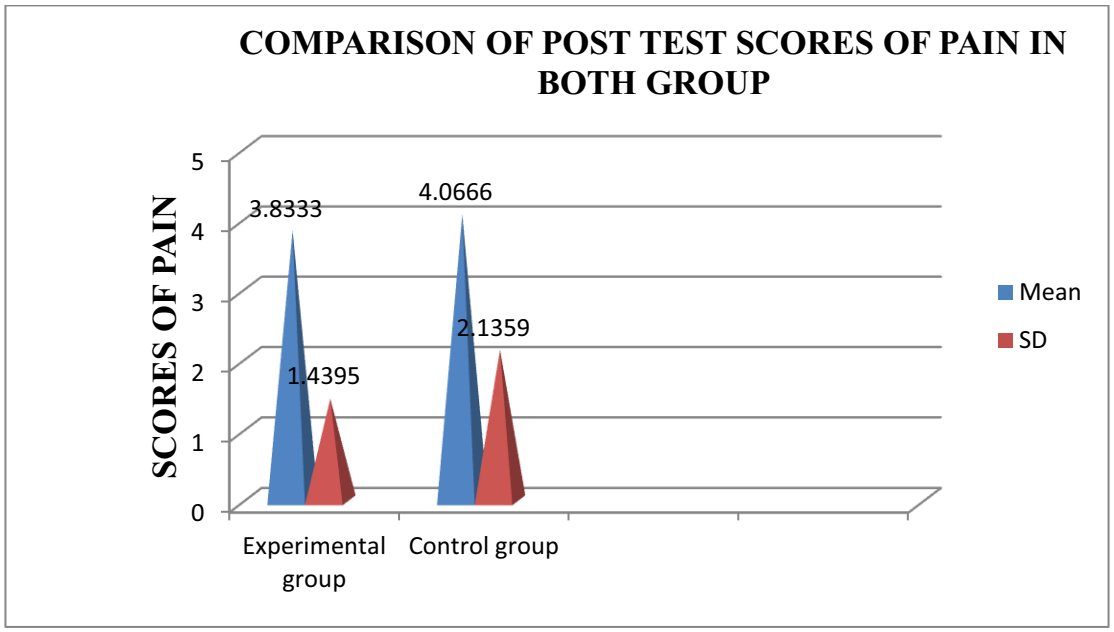


FIGURE 4.13 Compare the significant difference between experimental and control group among the postnatal mothers on episiotomy wound healing.



SECTION: 4

Assessment of correlation between the post test scores of wound healing and pain among the postnatal mothers in experimental and control group.

TABLES 4.6 assess the correlation between the post test scores of wound healing and pain among the postnatal mothers in experimental and control group.

N = 30 + 30 =60

S.NO	**GROUP**	**WOUND HEALING**		**PAIN**		**‘‘r” value**
		MEAN	SD	MEAN	SD	
1.	Experimental group	4.8	1.7397	3.8333	1.4395	r = 0.8 positive and highly significant
2.	Control group	6	3.8122	4.0666	2.1359	r = 0.4 positive and Moderately significant

TABLE 4.6 Represents the represents the correlation between the post test scores of wound healing and pain among the postnatal mothers in experimental and control group.

In experimental group the mean value of wound healing 4.8 with standard deviation 1.7397 and the mean value of pain 3.8333with standard deviation 1.4395and the correlation ‘r’ = 0.8 which is positive and highly significance for post test scores of experimental group. where as in control group the mean value of wound healing 6 with standard deviation 3.8122 and the mean value of pain 4.0666 with standard deviation

2.1359 and the correlation ‘r’ = 0.4 positive and moderately significant for post test scores of wound healing and pain.

Hence there is a positive and highly significant correlation between the wound healing and pain in experimental group and in control group, correlation is positive and moderately significant. It revealed that hot application was effective.

SECTION: 5

Assessment of association between the post test level of episiotomy wound healing and pain among the postnatal mothers in experimental with the selected demographic variables.

TABLE 4.7

Assess the association between the post test level of episiotomy wound healing and pain among the postnatal mothers in experimental with the selected demographic variables.

Demographic variables	Level of wound healing						λ^2	Level of pain						λ^2
	Mild		Moderate		Severe			Mild		Moderate		Severe		
	No	%	No	%	No	%		No	%	No	%	No	%	
Age in years														
a)13 to 16yrs	1	3.33	-	-	-	-		1	3.33	-	-	-	-	
b)17 to 20yrs	2	6.66	-	-	-	-		2	6.66	-	-	-	-	
c)21 to 25yrs	9	30	4	13.3	-	-	1.6771	8	26.6	9	30	-	-	5.8202
d)26 to 30yrs	9	30	4	13.33	-	-	(NS)	9	30	4	13.3	-	-	(NS)
e)31 to 35yrs	1	3.33	-	-	-	-		1	3.33	-	-	-	-	
Parity														
a)Primi	16	53.3	6	20	-	-	15.4281	15	50	7	23.3	-	-	0.1296
b)Multi	6	20	2	6.66	-	-	(S)	6	20	2	6.66	-	-	(NS)

Educational status														
a)Non formal														
b)High school	5	16.6	1	3.33	-	-		5	16.6	1	3.33	-	-	
c)Higher	4	13.3	1	3.33	-	-		4	13.3	1	3.33	-	-	1.1692
secondary							0.6547							(NS)
d)Graduate	13	43.3	6	20	-	-	(NS)	12	40	7	23.3	-	-	
Place of residence														
a)Rural	13	43.3	4	13.3	-	-	0.1973	12	40	5	16.6	-	-	14.027
b)Urban	9	30	4	13.3	-	-	(NS)	9	30	4	13.3	-	-	(S)
History of present medical illness														
a)Diabetes														
mellitus	1	3.33		-	-	-	13.9298	-	-	2	6.66	-	-	25.6776
b)Hyper							(S)							(S)
tension	1	3.33	1	3.33	-	-		1	3.33	1	3.33	-	-	
c)Bronchial														
asthma	1	3.33	1	3.33	-	-		-	-	1	3.33	-	-	
d)Normal														
condition	25	83.3		-	-	-		25	83.3	-	-	-	-	
Birth weight of the newborn														
a)Below 2.5 kg	3	10	1	3.33	-	-		3	10	1	3.33	-	-	9.5744
b)2.5 kg to 3.5 kg	15	50	5	16.6	-	-	13.4072	14	46.6	6	20	-	-	(S)
c)Above 3.5 kg	4	13.3	2	6.66	-	-	(S)	4	13.3	2	6.66	-	-	

Types of episiotomy														
a)Medio lateral														
Right	18	60	4	13.3	-	-	3.0368	18	60	5	16.6	-	-	3.203(NS)
Left	4	13.3	4	13.3	-	-	(NS)	3	10	4	13.3	-	-	
b)Median	-	-	-	-	-	-		-	-	-	-	-	-	
c)Lateral	-	-	-	-	-	-		-	-	-	-	-	-	
d)J shape	-	-	-	-	-	-		-	-	-	-	-	-	
Occupation														
a)Arts	9	30	4	13.3	-	-	2.9278	7	23.3	4	13.3	-	-	
b)Medical	4	13.3	4	13.3	-	-	(NS)	5	16.6	2	6.66	-	-	7.1575
c)Bio technology	9	30						9	30	3	10	-	-	(S)
Types of family														
a)Nuclear	16	53.3	4	13.3	-	-	1. 3636	13	43.3	6	20	-	-	6.8214
b)Joint	6	20	4	13.3	-	-	(NS)	8	26.6	3	10	-	-	(S)
Body built(BMI)														
a)Below 18	6	20	1	3.33	-	-		3	10	-	-	-	-	
b)18 to 24.4	6	20	1	3.33	-	-		6	20	4	13.3	-	-	
c)25 to 29	5	16.6	3	10	-	-	6.9332	6	20	3	10	-	-	2.333
d)30 above	5	16.6	3	10	-	-	(NS)	6	20	2	6.66	-	-	(NS)

Indication of episiotomy														
a)Macrosomia	-	-	1	3.3	-	-		-	-	1	3.33	-	-	
b)Elastic perineum	183	60	8	26.6	-	-	7.2112 (S)	173	56.6	9	30	-	-	3.8827 (S)
c)Breech		10	-	-	-	-			10	-	-	-	-	

H0 -There is no significant association between the post test levels of wound healing and pain among the postnatal mothers in experimental group with their selected demographic variables.

TABLE 4.7

Represents that assessment of association between the post test level of episiotomy wound healing and pain among the postnatal mothers in experimental with the selected demographic variables.

The analysis revealed that there is no significant association between the parity, birth weight of the baby and indication of episiotomy of post test of wound healing and there is no significant association between the age, educational status, place of residence, types of episiotomy, occupation, types of family and body built .And there was a significant association between the parity, history of present medical illness, birth weight of the baby and indication of episiotomy in experimental group. Where as in post test levels of pain revealed that there is a significant association between the place of residence, history of present medical illness, birth weight of the baby, occupation ,types of family and indication of episiotomy. And there is no significant association between the age, parity, educational status, types of episiotomy and body built

TABLE 4.8

Assess the association between the post test level of episiotomy wound healing and pain among the postnatal mothers in control group with the selected demographic variables.

Demographic variables	Level of wound healing						λ^2	Level of pain						λ^2
	Mild		Moderate		Severe			Mild		Moderate		Severe		
	No	%	No	%	No	%		No	%	No	%	No	%	
Age in years														
a)13 to 16 yrs	3	10	1	3.33	-	-	12.63	4	13.3	1	3.33	1	3.33	
b)17 to 20 yrs	3	10	-	-	-	-	48	3	10	4	13.3	3	10	8.1509
c)21 to 25 yrs	3	10	4	13.33	4	13.3	(NS)	3	10	2	6.66	1	3.33	(NS)
d)26 to 30 yrs	5	16.66	2	6.66	2	6.66		5	16.6	.-	-	1	3.33	
e)31 to 35 yrs	2	6.66	1	3.33	-	-.		2	6.66	-	-	-	-	
Parity														
a)Primi	9	30	5	16.6	4	13.3	0.413	11	36.6	5	16.6	2	6.66	2.3153
b)Multi	7	23.3	3	10	2	6.66	(NS)	6	20	2	6.66	4	13.3	(NS)
Educational status														
a)Non formal	2	6.66	-	-	-	-	11.82	1	3.33	1	3.33			7.6427
b)High school	5	16.6	1	3.33	-	-	78	3	10	2	6.66	-	-	(NS)
c)Higher						.	(S)							

secondary	4	13.3	-	-	1	3.33		5	16.6	-	-	1	3.33	
d)Graduate	5	16.6	6	20	6	20		8	26.6	4	13.3	5	16.6	
Place of residence														
a)Rural	8	26.6	4	13.3	3	10	0	8	26.6	3	10	4	13.3	0.8262
b)Urban	8	26.6	4	13.3	3	10	(NS)	9	30	4	13.3	2	6.66	(NS)
History of present medical illness														
a)Diabetes mellitus	2	6.66	1	3.33	-	-		1	3.33	1	3.33	-	-	
b)Hyper tension	1	3.33	1	3.33	-	-	3.278 8 (NS)	1	3.33	1	3.33	-	-	5.7197 (NS)
c)Bronchial asthma	1	3.33	1	3.33	-	-		1	3.33	1	3.33	-	-	
d)Normal condition	20	66.66	. 3	10	-	-		19	63.3	5	16.6	-	-	
Birth weight of the newborn														
a)Below 2.5 kg	2	6.66	2	6.66	-	-		3	10	1	3.33	-	-	
b)2.5 kg to 3.5 kg	9	30	4	13.3	6	20	3.803	8	26.6	6	20	5	16.6	10.237
c)Above 3.5 kg	5	16.6	1	3.33	1	3.33	(NS)	6	20	.-	-	1	3.33	(S)
Types of														

episiotomy														
a)Medio lateral														
Right	14	46.6	4	13.3	5	16.6	4.378	14	46.6	6	20	5	16.6	2.1854
Left	2	6.66	4	13.3	1	3.33	4 (S)	3	10	1	3.33	1	3.33	(NS)
b)Median	-	-	-	-	-	-		-	-	-	-	-	-	
c)Lateral	-	-	-	-	-	-		-	-	-	-	-	-	
d)J shape	-	-	-	-	-	-		-	-	-	-	-	-	
Occupation														
a)Arts	6	20	4	13.3	3	10		6	20	4	13.3	3	10	
b)Medical	2	6.66	-	-	-	-	2.019	1	3.33	1	3.33	-	-	5.611
c)Bio technology	8	26.6	4	13.3	3	10	(NS)	9	30	3	10	3	10	(NS)
Types of family														
a)Nuclear	11	36.6	4	13.3	5	16.6	1.781	11	36.6	5	16.6	4	13.3	0.4446
b)Joint	5	16.6	4	13.3	1	3.33	2 (NS)	6	20	2	6.66	2	6.66	(NS)
Body built														
a)Below 18	1	3.33	1	3.33	1	3.33	2.062	3	10	-	-	-	-	
b)18 to 24.4	5	16.6	1	3.33	1	3.33	5	4	13.3	2	6.66	1	3.33	4.019
c)25 to 29	5	16.6	3	10	2	6.66	(NS)	4	13.3	3	10	3	10	(NS)
d)30 Above	5	16.6	3	10	2	6.66		6	20	2	6.66	2	6.66	

Indication of episiotomy														
a) Macro somia	-	-	1	6.66	1	6.66	5.3418 (S)	-	-	1	3.33	1	3.33	9.0621 (S)
b) Elastic perineum	13	43.33	8	26.6	6	20		14	46.6	7	23.3	6	20	
c) Breech	1	3.33	-	-	-	-		1	3.33	-	-	-	-	

Ho There is no significant association between the post test of wound healing and pain among the postnatal mothers in control group with their selected demographic variables.

TABLE 4.8

Represents assess the association between the post test of episiotomy wound healing and pain among the postnatal mothers in control group with the selected demographic variables.

The analysis revealed that there is a significant association between the educational status, types of episiotomy and indication of episiotomy of post test of wound healing and there is no significant association between the age, parity, place of residence, history of present medical illness, birth weight of the baby, occupation, types of family and body built in control group. Where as in post test of pain revealed that there is a significant association between the birth weight of the newborn, indication of episiotomy. And there is no significant association between the age, parity, educational status, place of residence, history of present medical illness, types of episiotomy, occupation, types of family and body built.

DISCUSSION V

CHAPTER V

DISCUSSION

This chapter deals about the discussion of the study with appropriate statistical analysis and the finding based on the objectives and hypothesis of the study.

The study was a true experimental (post test only design). The problem stated as “a study to assess the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers at selected hospitals, Thanjavur.

The study was conducted for 60 students in which 30 are assigned as experimental group and 30 are assigned to control group. Hospitals and samples were selected by using simple random (lottery and table method). The study was conducted among the postnatal mothers at selected hospitals, Thanjavur.

Samples were selected by using lottery method. Post test was conducted by using REEDA and Numerical pain rating scale to assess the wound healing and pain among the postnatal mothers. Hot application (sitz bath with potassium permanganate mixed with 4 liters of warm water with 110 F).It’s given 3 times per day with duration of 15 minutes for every 4 hours(7am,11am and 3pm).

The first objective to assess the post test of episiotomy wound healing and pain among the postnatal mothers in both experimental and control group.

In the post test of experimental group wound healing level was 22(73.33%) mothers had mild wound healing and 8 (26.66%) mothers had moderate wound healing**.** In pain 21 (70%) mothers had mild pain and 9 (30%) mothers had

moderate pain. Where as in control group 16 (53.33%) mothers had mild wound healing, 8 (26.66%) mothers had moderate wound healing and 6 (20%) mothers had severe wound healing.In pain 17(56.66%) mothers had mild pain,7(23.33%) mothers had moderate pain and 6(20%) mothers had severe pain.

The second objective to compare the significance difference between the experimental and control group of post test of episiotomy wound healing and pain among the postnatal mothers .

The analysis revealed that mean value 4.8 with standard deviation 1.7397of post test of wound healing has significant to the post test of pain mean value 3.8333with standard deviation 1.4395and the ‘t’ value CV = 13.8906 and TV = 2.01 (CV > TV).In control group the mean value 6 with standard deviation 3.8122 has significant to the post test of pain mean value 4.0666 with standard deviation 2.1359 and the ‘t’ value CV = 15.9465 and TV = 2.01(CV > TV). Both was significant at 0.05 level. So the hot application was effective.

The third objective to correlate the post test of episiotomy wound healing and pain among the postnatal mothers in both experimental group and control group.

In experimental group the mean value of wound healing 4.8 with standard deviation 1.7397 and the mean value of pain 3.8333 with standard deviation 1.4395 and the correlation ‘r’ = 0.8. It revealed that there was a positive and highly significant correlation between the wound healing and pain.

In control group the mean value of wound healing 6 with standard deviation 3.8122 and the mean value of pain 4.0666 with standard deviation 2.1359 and the correlation ‘r’ = 0.4 it revealed that there was a positive moderately significant correlation between the wound healing and pain.

The fourth objective to determine the association between the post test of episiotomy wound healing and pain among the postnatal mothers in experimental and control group with their selected demographic variables.

In the experimental group there was a significant association between the parity, history of present medical illness, birth weight of the baby and indication of episiotomy .Where as in pain there was a significant association between the place of residence, history of present medical illness, birth weight of the baby, occupation, types of family and indication of episiotomy. In the control group there is a significant association between the educational status, types of episiotomy and indication of episiotomy for wound healing. Where as in pain there is a significant association between the birth weight of the baby, indication of episiotomy. so the hypothesis H3 is accepted.

In experimental group there is no significant association between the age, educational status, place of residence, types of episiotomy, occupation, types of family and body built for wound healing. Where as in pain there is no significant association between the age, parity, educational status, types of episiotomy and body built. So the hypothesis H3 is rejected.

In control group there is no significant association between the age, parity, place of residence, history of present medical illness, birth weight of the baby, occupation, types of family and body built .Where as in pain there is no significant association between the age, parity, educational status, place of residence, history of present medical illness, types of episiotomy, occupation, types of family and body built. So the hypothesis H3 is rejected.

CHAPTER VI

SUMMARY AND CONCLUSION

CHAPTER VI

SUMMARY AND CONCLUSION

The present study was conducted to assess the wound healing and pain of postnatal mothers on episiotomy. The design was true experimental post test only design. A total 60 postnatal mothers (30 postnatal mothers in experimental group) and (30 postnatal mothers in control group) who meet the inclusion and exclusion criteria were selected as samples from the selected hospitals, Thanjavur. The samples were selected by using simple random (table method) sampling technique. The investigator first introduced herself to the samples and developed rapport with them. After the selection of samples, the interview was being conducted with the instrument.

In the post test of experimental group wound healing level was 22(73.33%) mothers had mild wound healing and 8 (26.66%) mothers had moderate wound healing**.** In pain 21 (70%) mothers had mild pain and 9 (30%) mothers had moderate pain. Where as in control group 16 (53.33%) mothers had mild wound healing, 8 (26.66%) mothers had moderate wound healing and 6 (20%) mothers had severe wound healing. In pain 17(56.66%) mothers had mild pain,7(23.33%) mothers had moderate pain and 6(20%) mothers had severe pain.

The statistical analysis for the comparison of wound healing and pain of the experimental and control group was calculated by the “unpaired ‘t’ test” for post test wound healing level was (‘t’ =13.8906) and for pain (‘t’ =15.9465) this revealed that there is significant difference in post test wound healing and pain for the experimental and control group.

The statistical analysis for correlation between the post test scores of wound healing and pain of the experimental and control group was calculated by “

karl pearson correlation test ”stated that in experimental group the post test scores of wound healing mean value is 4.8 with SD 1.7397 and the post test scores of pain the mean value is 3.8333 with SD 1.4395.And the ‘r’ value (r = 0.8) it revealed that there is a positive and highly significant correlation between the wound healing and pain regarding hot application.

In control group the mean post test value of wound healing was 6 with SD 3.8122 and in pain the mean value 4.0666 with SD 2.1359 and ‘r’ value (r = 0.4) it revealed that there was a positive and moderately significant correlation between the wound healing and pain regarding routine care.

The statistical analysis to determine the association between the post test level of wound healing and pain regarding hot application among the postnatal mothers with their selected demographic variables was calculated by using “ chi square test”. The results were stated that in experimental group towards wound healing there is a significant association between the parity, history of present medical illness, birth weight of the baby and indication of episiotomy and in pain revealed that there is a significant association between the place of residence, history of present medical illness, birth weight of the baby, occupation, types of family and indication of episiotomy. Where as in control group towards wound healing there is a significant association between the educational status, types of episiotomy and indication of episiotomy and in pain there is a significant association between the birth weight of the baby and indication of episiotomy.

CONCLUSION

The main objective of the study was to determine the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers at selected hospitals, Thanjavur. The statistical analysis revealed that there is significant difference between post test levels of wound healing and pain scores of experimental group indicated the given hot application was effective.

NURSING IMPLICATION

The findings of the study have certain important implications for the nursing services, education, administration, and nursing research.

NURSING SERVICE

Nurses are acts as a educator, leader, supervisor, protector, advocator and team member in various situation of work. Hot application given to the postnatal mothers on episiotomy wound to protect from pain and inflammation. The findings of the study will help the postnatal mothers to protect from pain and inflammation for subsequent delivery.

NURSING EDUCATION

The result of the study will help to the nurse educator to import the knowledge regarding hot application on episiotomy wound healing and pain.

The study emphasis the need of educating the nursing personal, non nursing personal and the public through in service or continuing programme to update their knowledge and skills in educating the mothers regarding hot application.

NURSING RESEARCH

The study can be a baseline for further studies to built upon.

The study can be conducted in various group of postnatal mothers(LSCS)

NURSING ADMINISTRATION

The findings of the present study will help the nurses to organize and plan for educational programme by using various teaching methods and audiovisual aids.

RECOMMENTATIONS

- The comparative study can also be done to assess the effectiveness of hot application among the normal postnatal mothers and LSCS mothers.
- The study can be done on large sample size to generalize the effectiveness of hot application.
- An experimental study can be done to assess the effectiveness of hot application among the LSCS mothers also.

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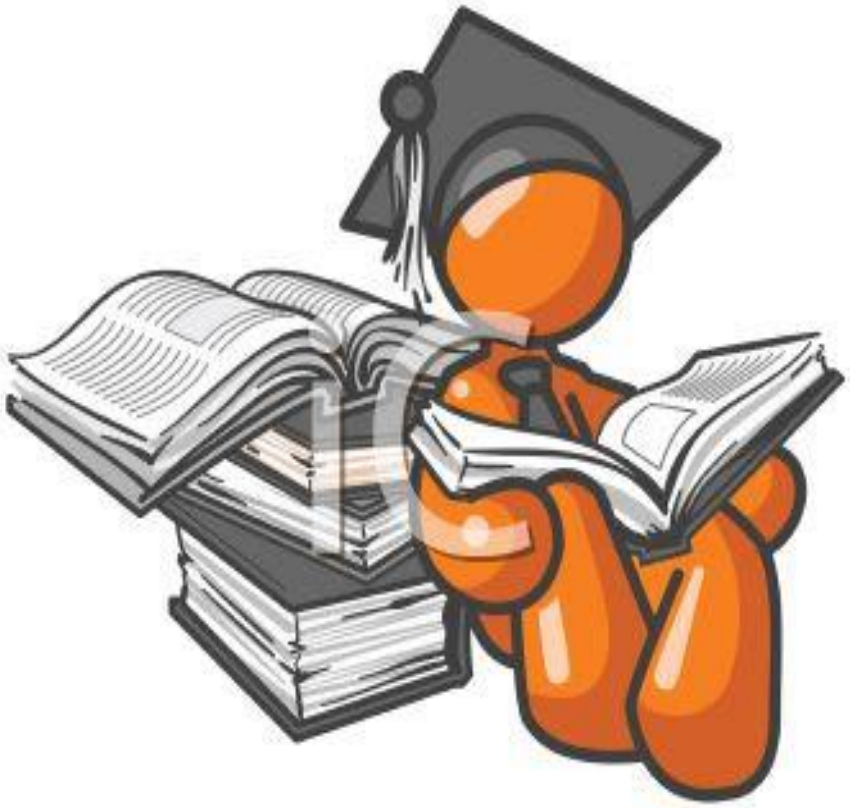

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REQUISITION FOR VALIDITY

From

Ms.M.Bairavi, II year MSc., (N),

Our Lady of Health College of Nursing,

Thanjavur**.**

Through Principal,

To

Respected Madam,

Subject: Requisition for VALIDITY

I Ms.Bairavi.M doing M.Sc.,Nursing Obstetrical and Gynaecological Nursing department in Our Lady of Health College of Nursing, Thanjavur. I have undertaken the following study under The Tamilnadu Dr.M.G.R Medical University .

TOPIC: **"A Study To Assess The Effectiveness Of Hot Application On Episiotomy Wound Healing And Pain Among The Postnatal Mothers At Selected Hospitals, Thanjavur".**

I kindly request you to give your valuable commands and suggestions for the study.

ENCLOSURE:

1. Proposal

2.Tools

- TOOL I: Demographic data
- TOOL II: REEDA scale
- TOOL III: Numerical pain rating scale

3.Contents of the study

Thanking you,

Place: Yours sincerely,

Date: M.Bairavi

ANNEXURE

ANNEXURE

SAMPLE NO:

HOSPITALS:

Samples are requested to kindly tick the options

TOOL – I : DEMOGRAPHIC VARIABLES

1. Age of the mother

a) 13 to16 yrs

b) 17 to 20 yrs

c) 21 to 25 yrs

d) 26 to 30 yrs

e) 31 to 35 yrs

2. Parity

a) Primi

b) Multi

3) Educational status

a) Non formal

b) High school

c) Higher secondary

d) Graduate

4) Place of residence

a) Rural

b) Urban

5) History of present illness

a) Diabetes mellitus

b) Hypertension

c) Bronchial asthma

d) Normal condition

6) Birth weight of the baby

a) Below 2.5 kg

b) 2.5kg to 3.5 kg

c) Above 3.5 kg

7) Types of episiotomy

a) Medio lateral

Right

Left

b) Median

c) Lateral

d) J shape

8) Occupation

a) Arts

b) Medical

c) Bio technology

9) Types of family

a) Nuclear

b)Joint

10) Body built(BMI)

a) below 18

b) 18 to 24.4

c) 25 to 29

d) 30above

11)Indication of episiotomy

a) Macrosomia

b)Elastic perineum

c)Breech

ANNEXURE

TOOL 2 : REEDA SCALE

Secondary outcome measure used was REEDA scale for assessing the healing process .REEDA scale has a categorical score [0-3].That measure 5 components associated with the healing process .Each item is related on a scale of 0 - 3 and score may range from 0-15 .The lesser score indicate better healing.

R- Redness.

E- Edema.

E- Ecchymosis.

D- Discharge.

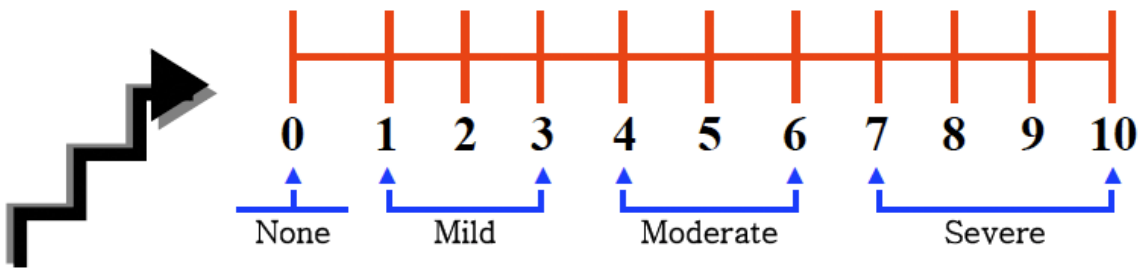
A- Approximation of wound edge.

POINTS	R	E	E	D	A	TOTAL
0	None	None	None	None	Closed	0
1	Within o.25cm of incision bilaterally	Less than 1 cm from incision	Within 0.25cm bilaterally or 0.5 cm unilaterally	serum	Skin separation 3mm or less	5
2	Beyond 0.5 cm of incision bilaterally	1-2cm from incision	0.25-1cm bilaterally or 0.5-2cm unilaterally	Purulent with pus	Skin and sub cutaneous fat separation	10
3	Beyond 0.5 cm of incision bilaterally	Greater than 2cm from incision	Greater than 1cm bilaterally or 2cm unilaterally	Bloody , Sero sanquineous	Skin and sub cutaneous fat separation and fascial separation	15

ANNUXURE

TOOL III: NUMERICAL PAIN SCALE

Tertiary outcome measure used was Numerical Pain scale for assessing the pain reduction. Each item is drawn on the scale of 0-10.The lesser score indicate better pain reduction.



HOT APPLICATION (SITZ BATH)

PREPARATION

1. Provide privacy.

2. Collect all the articles available in the clients unit.

3. Clean the basin with disinfectant solution.

4. Expose the particular area only.

SOLUTION USED FOR PROCEDURE

Potassium permanganate solution mixed with 4 liters of warm water with 110 ℉. It's given 3 times with duration of 15 minutes for every 4 hours per day (7am, 11am and 3pm).

ARTICLES NEEDED FOR THE PROCEDURE

a) Big basin
b) Lotion thermometer
c) Blanket
d) Potassium permanganate
e) Inflating ring
f) Jug 1

PROCEDURE FOR SITZ BATH

Procedure	Rationale
1) Explain the procedure to the mother. 2) Wash hands. 3) Collect all articles to the right side of the mother.	1) To get her co operation. 2) To prevent cross infection.

4) Provide privacy. 5) Pour the 4 liters of hot water into the basin and check the temperature of the water (110 ^{o}F) by lotion thermometer. 6) Then add the potassium permanganate 1 gram into the basin.	
7) Inflated ring placed in the bottom of the basin for support.	3) Ring provide cushion between bottom of basin and skin.
8) Instruct the mother to empty the bladder.	4) To prevent urge to void.
9) Ask the mother to remove the dressing and wash the perineal area properly.	5) Dressing may loosen and obstruct drain and interfere with cleaning action of water.
10) Assist the mother to immerse the perineal area into the basin for 15 minutes duration.	6) Minimize the risk of fall.
11) Wrap a blanket around the shoulders.	7) To prevent exposure and chilling.
12) Do not leave the mother alone in the basin.	8) To prevent falling.
13) If the mother complaints of fainting or weakness, assist her out of the bath,dry her and allow to lie flat in the bed ,until normal circulation reestablished.	
14) Dry the aera and assist mother in wearing clothes.	9) Drying the part gently prevents skin maceration.
15) Provide comfortable positions and ask for any complaits to the mother.	10) Promote comfort and show respect for individual.
16) Clean the basin for next use.	11) Prevents the transmission of infections
17) Replace all articles.	12) Verify the appropriateness of nursing

	care.
18) Wash hands.	13) To prevent infections.
19) Wound healing was assessed after 3 times of intervention at the end of the 3rd day at 6pm.	14)To find out the wound healing level
20) Documentation:time,date mother activity and client reaction.	15) Communicate pertinent data to other members of treatment team.